

UC-NRLF



B 4 173 231

ERKELEY

BRARY

UNIVERSITY OF
CALIFORNIA

EARTH
SCIENCES
LIBRARY

LIBRARY

OF THE

UNIVERSITY OF CALIFORNIA.

GIFT OF

Canada-Geol. Survey.

Accession 92760 Class 1788 ✓

GEOLOGICAL SURVEY OF CANADA
G. M. DAWSON, C.M.G., LL.D., F.R.S., DIRECTOR

GENERAL INDEX

TO THE

REPORTS OF PROGRESS

1863 TO 1884

Compiled by

D. B. DOWLING, B.Ap.Sc.



2
OTTAWA

PRINTED BY S. E. DAWSON, PRINTER TO THE QUEEN'S MOST
EXCELLENT MAJESTY

1900

638



506185
A3
Index
1863-84
★ ★

GEOLOGICAL SURVEY OF CANADA
J. W. DAWSON, G.M. & L.D. DIRECTOR
EARTH SCIENCES LIBRARY

GENERAL INDEX

TO THE

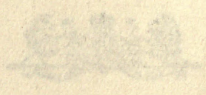
REPORTS OF PROGRESS

Geol. Survey

1863 to 1884

Compiled by

D. B. DOWLING, B.A.

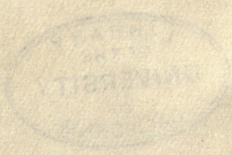


OTTAWA

PRINTED BY J. E. DAWSON, PRINTER TO THE GENERAL MGMT.
EXCELLENT MASTERY

1900

428



P R E F A C E.

All the early reports of the Geological Survey of Canada were published under the name of "Reports of Progress." The first of these was that for the year 1843, printed in Montreal in the year 1845. This report was followed by Reports of Progress for 1844, 1845-46, 1846-47, 1847-48, 1848-49, 1849-50, 1850-51, 1851-52, 1852-53, 1853-56, 1857 and 1858. In 1863, a volume of 983 pages, with many illustrations, was published, in which all the observations made, up to that time, were brought together in a condensed and systematic form, making it a summarized general Report of Progress to date. This report was provided with an index, but one of a very inadequate character, in view of the great body of observations contained in it.

The present General Index begins with the volume of 1863, for which an entirely new index has been made, and embraces the succeeding reports to that of 1882-83-84 inclusive. It covers sixteen volumes and two short summaries, making in all 6585 pages of text, to which more than 31,000 entries are given. It thus provides a ready means of reference to practically the entire body of observations published by the Geological Survey up to the year 1884.

A new series of reports, under the name of "Annual Reports," begins with the Annual Report for 1885, each of which is separately indexed. It is intended, at a later date, to prepare a general index to these subsequent reports.

The arrangement of the present index is as follows :—

PART I.—*Districts described in the several reports.*

The reports are geographically analysed and arranged under Provinces, Counties or Districts, so that under any county or district in a province, a list of references to reports, arranged in chronological sequence, is given.

PART II.—*Special Examinations.*

Ores, rocks, minerals or fossils that have been subjected to assay, analysis, microscopical examination, or scientifically described, are here specially referred to.

GEOLOGICAL SURVEY OF CANADA.

PART III.—*General Index.*

In this the arrangement, under a reference to a place, is usually chronological, commencing with the earliest, while under a subject, references will be found alphabetically arranged, or in cases of common occurrences, as of iron, localities may be grouped under Provinces.

It must be borne in mind that the operations of the Geological Survey at first extended only to the areas of the Provinces of Ontario and Quebec, then known as Upper and Lower Canada respectively. Subsequent to the date of Confederation (1867), the field became extended to include the whole area of the Dominion of Canada, and reports relating to different part of this vast region began to appear with the volume of 1866-69.

The regular reports of the Survey are printed in English and French, but with one exception, elsewhere explained, the present General Index relates to the English edition only.

In addition to these regular reports, special publications and excerpts have appeared from time to time under the authority of the Survey. Of these the more important are referred to in Part I. of the Index, but they are not included by the references made in the General Index proper, Part III. Special publications of the Palæontological and Botanical series are not included. For a complete enumeration of the publications of the Geological Survey, reference may be made to the List of Publications, printed from time to time.

This Index of the reports of the Survey, as now published, has been prepared by Mr. D. B. Dowling, B. Ap. Sc., to whose careful and conscientious work it is but right to refer in terms of especial appreciation.

GEORGE M. DAWSON,
Director Geological Survey of Canada.

November, 1897.

LIST OF REPORTS INDEXED, IN ORDER OF PUBLICATION
WITH THE ABBREVIATIONS USED TO INDICATE
EACH REPORT IN THE INDEX.

	Abbreviation used in index.
<i>Geology of Canada, 1863</i> —Geological Survey of Canada, Report of Progress from its commencement to 1863. Illustrated by 498 wood cuts in the text, 983 pages. Montreal, 1863.....	(1863)
<i>Atlas of Maps and Sections</i> —With an Introduction and Appendix, to accompany <i>Geology of Canada, 1863</i> , 42 pages. Montreal, 1865.....	(Atlas, 1863)
<i>Report of Progress from 1863 to 1866</i> —321 pages. Ot- tawa, 1866.....	(63-66)
<i>Summary Report of Progress in Geological Investiga- tions.</i> Dated 1st May, 1869, 9 pages. Ottawa : 1869.....	Summ. (68-69)
<i>Summary Report of Progress in Geological Investiga- tions.</i> Dated 2nd May, 1870, 14 pages. Ottawa, 1870.....	Summ. (69-70)
* <i>Report of Progress from 1866 to 1869</i> —475 pages. Montreal, 1870.....	(E.)
<i>Rapport des Opérations de 1866 à 1869</i> , accompagné de Cartes Géologiques et Topographiques, 530 pages (F.)	(66-69)
<i>Report of Progress for 1870-71</i> , 351 pages. Ottawa, 1872.	(70-71)
<i>Report of Progress for 1871-72</i> , 154 pages. Montreal, 1872.....	(71-72)
<i>Report of Progress for 1872-73</i> , 300 pages. Montreal, 1873.....	(72-73)
<i>Report of Progress for 1873-74</i> , 268 pages. Montreal, 1874.....	(73-74)
<i>Report of Progress for 1874-75</i> , 319 pages. Montreal, 1876.....	(74-75)
<i>Report of Progress for 1875-76</i> , 432 pages. Montreal, 1877.....	(75-76)
<i>Report of Progress for 1876-77</i> , 531 pages. Montreal, 1878.....	(76-77)
<i>Report of Progress for 1877-78</i> , 476 pages. Montreal, 1879.....	(77-78)
<i>Report of Progress for 1878-79</i> , 376 pages. Montreal, 1880.....	(78-79)
<i>Report of Progress for 1879-80</i> , 562 pages. Montreal, 1881.....	(79-80)
<i>Report of Progress for 1880-81-82</i> , 222 pages. Montreal, 1883.....	(80-82)
<i>Report of Progress for 1882-83-84</i> , 750 pages. Montreal, 1885.....	(82-84)

* As the English edition of this Report has long been out of print, and is very scarce, references are added in the Index to the pages of the French edition.



PART I.

DISTRICTS DESCRIBED IN THE SEVERAL REPORTS.

NOTE.—It will be understood from the remarks made in the Preface, that in order to obtain references to *all* the published information relating to any particular district, it may be necessary to consult also the Indexes of the several Annual Reports from 1885 to date.

NOVA SCOTIA.

NOVA SCOTIA—*Cont*

ERRATA.

Page 24, *under* Coal, lignite, Pincher Creek, *for* (78-n9) 612B, *read* (78-79) p. 12 H.

" 164, " Fire-clay of Coxheath and East Bay, N. S., *for* p. 416, *read* p. 456.

" 198, " Gray, *add*, *see* Grey.

" 210, *for* HAYNES, J. L., *read* HAYES, J. L.

" 218, *under* How, H., analysis of mineral-water from East Bay, N. S., *for* p. 458, *read* p. 455.

Report by T. S. Hunt on gold regions of Nova Scotia (Ottawa, 1868.)

Report on Acadian iron ore deposits by A. R. C. Selwyn, pp. 19-27 (72-73)

Analyses of samples of ores from, by B. J. Harrington, pp. 28-33 (72-73.)

Cumberland Co.

Notes on coal from Springhill coal-field, by E. Hartley, pp. 443-447 (66-69).

Report on Springhill coal-field, by S. Barlow, with map, scale 8 m. = 1 in., pp. 147-160, (73-74).

Report on a portion of the coal-field of, by W. McQuat, pp. 161-170 (73-74).

Report of progress in surveys in coal-fields of, by S. Barlow, pp. 343-347 (75-76).

Guysborough Co.

Report of T. S. Hunt on gold regions of Nova Scotia (published separately), Ottawa, 1868.

Geology of part of, included in report by H. Fletcher, with map, scale, 1 m. = 1 in., pp. F. (79-80).

Pictou coal-field east of East River, with map, scale 1 m. = 1 in., pp. 4-53 (66-69).

Report by E. Hartley on a part of the Pictou coal-field, west of the East River, with map, scale, 1 m. = 1 in., pp. 54-107, (66-69).

Report by E. Hartley on Pictou coals and iron-ores, pp. 365-442 (66-69).

Richmond Co.

Report on the geology of part of, included in report by H. Fletcher, pp. 402-456, (76-77), with map (Grand Narrows sheet), scale 1 m. = 1 in.

Report on geology of southern part of, by H. Fletcher, pp. 1-32 F (77-78).

Report on geology of part of, included in report by H. Fletcher, pp. 1-125 F, (79-80).

Victoria Co.

Notes on New Campbellton Mines by Chas. Robb, pp. 184-187 (73-74).

Geology of eastern part of, included in report by Chas. Robb, pp. 245-262 (74-75). map of Cape Dauphin District, scale 20 chains = 1 in.

STATE OF NEW YORK
IN SENATE
January 1, 1901.

REPORT
OF THE

(1899)

(1900)

APPENDIX

1901

(1901)

(1902)

(1903)

(1904)

(1905)

(1906)

(1907)

THE STATE OF NEW YORK, 1901.



PART I.

DISTRICTS DESCRIBED IN THE SEVERAL REPORTS.

NOTE.—It will be understood from the remarks made in the Preface, that in order to obtain references to *all* the published information relating to any particular district, it may be necessary to consult also the Indexes of the several Annual Reports from 1885 to date.

NOVA SCOTIA.

Nova Scotia Gold-fields, notes and comments by A. R. C. Selwyn, pp. 251-282 (70-71.)

Antigonish Co.

Geology of part included in report by H. Fletcher, pp. 1-125 F. (79-80) map issued in 1884; scale, 1 m. = 1 in.

Cape Breton Co.

Report on coal mines by Chas. Robb, pp. 238-290 (72-73).

Report on explorations and surveys by Chas. Robb, pp. 171-181 (73-74).

Supplemental report on coal mines of, by Chas. Robb, pp. 187-188 (73-74).

Report on explorations and surveys in, by Chas. Robb, pp. 166-194 (74-75), with map of eastern part of Sydney coal-field.

Report of explorations and surveys by H. Fletcher, pp. 369-418 (75-76), with map scale, 1 m. = 1 in.

Report on geology of part of, in report by H. Fletcher, with map of western part of coal-fields, pp. 402-456 (76-77).

Report on south-eastern part, with map (Louisburg sheet), scale, 1 m. = 1 in., by H. Fletcher, pp. 1-32 F. (77-78).

Colchester Co.

Report by T. S. Hunt on gold regions of Nova Scotia (Ottawa, 1868.)

Report on Acadian iron ore deposits by A. R. C. Selwyn, pp. 19-27 (72-73)

Analyses of samples of ores from, by B. J. Harrington, pp. 28-33 (72-73.)

Cumberland Co.

Notes on coal from Springhill coal-field, by E. Hartley, pp. 443-447 (66-69).

Report on Springhill coal-field, by S. Barlow, with map, scale 8 m. = 1 in., pp. 147-160, (73-74).

Report on a portion of the coal-field of, by W. McQuat, pp. 161-170 (73-74).

Report of progress in surveys in coal-fields of, by S. Barlow, pp. 343-347 (75-76).

Guyborough Co.

Report of T. S. Hunt on gold regions of Nova Scotia (published separately), Ottawa, 1868.

Geology of part of, included in report by H. Fletcher, with map, scale, 1 m. = 1 in., pp. F. (79-80).

NOVA SCOTIA—Cont.

Halifax Co.

Report by T. S. Hunt on gold regions of Nova Scotia (published separately), 1868.

Hants Co.

Report by T. S. Hunt on gold region of Nova Scotia (published separately), Ottawa, 1868.

Inverness Co.

Report by T. S. Hunt on gold region of Nova Scotia (published separately), Ottawa, 1868.

Notes on coal-fields of, by Chas. Robb, pp. 182-191 (73-74).

Geology of part of, included in report by H. Fletcher, pp. 1-125 F. (79-80).

Report on geology of northern part of, included in report by H. Fletcher, with maps, scale 1 m. = 1 in., pp. 5-98 H. (82-84).

Lunenburg Co.

Report by T. S. Hunt on gold region of Nova Scotia (published separately), Ottawa, 1868.

Pictou Co.

Report by Sir W. E. Logan on a part of the Pictou coal-field east of East River, with map, scale 1 m. = 1 in., pp. 4-53 (66-69).

Report by E. Hartley on a part of the Pictou coal-field, west of the East River, with map, scale, 1 m. = 1 in., pp. 54-107, (66-69).

Report by E. Hartley on Pictou coals and iron-ores, pp. 365-442 (66-69).

Richmond Co.

Report on the geology of part of, included in report by H. Fletcher, pp. 402-456, (76-77), with map (Grand Narrows sheet), scale 1 m. = 1 in.

Report on geology of southern part of, by H. Fletcher, pp. 1-32 F. (77-78).

Report on geology of part of, included in report by H. Fletcher, pp. 1-125 F. (79-80).

Victoria Co.

Notes on New Campbellton Mines by Chas. Robb, pp. 184-187 (73-74).

Geology of eastern part of, included in report by Chas. Robb, pp. 245-262 (74-75), map of Cape Dauphin District, scale 20 chains = 1 in.

NOVA SCOTIA—*Cont.**Victoria Co.—Cont.*

Report on geology of part of, included in report by H. Fletcher, with map of part of, scale 1 m. = 1 in., pp. 402-456 (76-77).

Geology of part of, included in report on geology of northern part of Cape Breton Island by H. Fletcher, pp. 5-98 H (82-84).

Map of part of county in report for 1875-76, scale 1 m. = 1 in.

PRINCE EDWARD ISLAND.

Report by R. W. Ells on geology of, pp. 11-19 E (82-84).

NEW BRUNSWICK.

Albert Co.

Report by L. W. Bailey and R. W. Ells on Lower Carboniferous belt and Albert Shales, pp. 351-401 (76-77), with map, scale 1 m. = 1 in.

Report by R. W. Ells on Pre-Silurian rocks of, pp. 1-13 D (77-78).

Report by Bailey, Matthew and Ells on geology of southern counties in which is included Albert, pp. 1-26 DD (78-79), map of part, on Grand Lake sheet, scale 4 m. = 1 in.

Carleton Co.

Report by Chas. Robb on geology of, with map scale 8 m. = 1 in., pp. 173-209 (66-69). Supplementary report by Chas. Robb, pp. 241-250 (70-71).

Report on iron ore deposits by R. W. Ells, pp. 97-104 (74-75), map, scale 2 m. = 1 in.

Report on exploration and surveys in, by L. W. Bailey, pp. 5-31 G (82-84).

Surface geology of part of, by R. Chalmers, pp. 5-47 GG (82-84).

Charlotte Co.

Report on part of, in report by Bailey and Matthew on Southern New Brunswick, pp. 13-240 (70-71).

Note on correlation work on Mascarene Series of 1874, by L. W. Bailey and G. F. Matthew, pp. 85-89 (74-75).

Report on slate formation of northern part and geology of south-eastern, by G. F. Matthew, pp. 321-350 (76-77).

Geology of, in report on geology of southern counties by Bailey, Matthew and Ells, pp. 1-26 D (78-79) with map (St. Stephen sheet) 4 m. = 1 in.

Gloucester Co.

Geology of part of, discussed by R. W. Ells in report on Northern New Brunswick, pp. 1-47 D (79-80). Map of part, issued (80-82). (Newcastle, Bathurst, and Shippegan sheets), scale 4 m. = 1 in.

Grand Manan Island.

Report on Crystalline and Triassic rocks of, by Bailey and Matthew, pp. 100-221 (70-71), map of on St. Stephen sheet, scale 4 m. = 1 in.

NEW BRUNSWICK—*Cont.**Kent Co.*

Middle Carboniferous rocks of, in report by R. W. Ells, pp. 3-6 D. (80-82), with map of part of, scale 4 m. = 1 in.

Kings Co.

Report by Bailey and Matthew on part of, in report of Southern New Brunswick, pp. 1-240 (70-71).

Pre-Silurian rocks of eastern part of, report by R. W. Ells, pp. 1-13 D. (77-78).

The Huronian and Cambrian rocks of, in report by L. W. Bailey, pp. 1-34 DD. (77-78).

Report on Upper Silurian and Kingston Series in, by G. F. Matthew, pp. 1-6 E. (77-78).

Geological report and résumé of geology, in report by Bailey, Matthew and Ells, pp. 1-26 D. (78-79) with maps (Grand Lake sheet and St. John sheet,) scale, 4 m. = 1 in.

Northumberland Co.

Geology of part of, discussed in report by R. W. Ells, on Northern New Brunswick, pp. 1-47 D. (79-80).

Carboniferous and Cambro-Silurian rocks of, discussed in report by R. W. Ells, pp. 3-17 D. (80-82), map of part of, scale, 4 m. = 1 in. (Newcastle and Richibucto sheets.)

Queen's Co.

Report on geology of, included in report by Bailey and Matthew on Southern New Brunswick, pp. 13-240 (70-71).

The Carboniferous System in New Brunswick, in Queens, Sunbury and part of York counties, by Messrs. Bailey and Matthew, pp. 180-230 (72-73).

Section of Pale Argillite Series measured in 1874 by Bailey and Matthew, p. 85 (74-75).

The Pre-Carboniferous rocks of, in report by Bailey, Matthew and Ells, pp. 350-368 (75-76.)

Geological report and résumé of geology of, in report by Bailey, Matthew and Ells, pp. 1-26 D. (78-79.) Map (Grand Lake sheet) scale 4 m. = 1 in.

Restigouche Co.

Geology of part of, discussed in report by R. W. Ells on Northern New Brunswick, pp. 1-47 D. (79-80).

Note on trapean rocks of Bay of Chaleurs by R. W. Ells, p. 19 D. (80-82). Map of, scale 4 m. = 1 in. (Dalhousie and Bathurst sheets.)

St. John Co.

Report on geology of, included in report by Bailey and Matthew, pp. 13-240 (70-71).

Pre-Silurian rocks of, in report by R. W. Ells on Southern New Brunswick, pp. 1-13 D. (77-78).

NEW BRUNSWICK—Cont.

St. John Co.—Cont.

The Huronian and Cambrian rocks of, in report by L. W. Bailey, pp. 1-34 DD. (77-78).

Geological report and résumé of geology of, in report by Bailey, Matthew and Ells, pp. 1-26 D. (78-79), with map (St. John sheet), scale, 4 m. = 1 in.

St. John River.

Terraces of, sections, &c., in report on superficial geology by R. Chalmers, pp. 27-41 GG. (82-84).

Sunbury Co.

The Carboniferous System in New Brunswick, report by L. W. Bailey and G. F. Matthew, pp. 180-230 (72-73).

Report on boring operations at Newcastle Bridge, with section of bore, by R. W. Ells, pp. 231-237 (72-73).

Second report on boring operations at Newcastle Bridge, by R. W. Ells, pp. 90-96 (74-75).

Map of part of, issued with report for (80-82). (Newcastle sheet), scale 4 m. = 1 in.

Sunbury Co.

The pre-Carboniferous rocks of, from report by Bailey, Matthew and Ells, pp. 350-368 (75-76).

Geological report and résumé of geology of, in report by Bailey, Matthew and Ells, pp. 1-26 D (78-79) map of part of (Grand Lake Sheet) scale 4 m = 1 in.

Map of part of, (Newcastle sheet), issued (80-82).

Southern New Brunswick.

Report of progress of geological investigations in, by L. W. Bailey, pp. 142-145 (71-72).

Report on the superficial geology of, by G. F. Matthew, pp. 1-36 EE (77-78).

Victoria Co.

Report by Chas. Robb on part of, included in pp. 173-209 (66-69).

Supplementary report by Chas. Robb, pp. 250-251 (70-71).

Westmoreland Co.

Report on Lower Carboniferous belt and Albert Shales, by L. W. Bailey and R. W. Ells, pp. 351-401 (76-77), with map, scale 1 m = 1 in.

York Co.

Report by Chas. Robb on part of, included in pp. 173-209 (66-69).

Supplementary report by Chas. Robb, pp. 241-249 (70-71).

Carboniferous System of New Brunswick in York Co. included in, pp. 180-230 (72-73).

Report of explorations and surveys in portions of York and Carleton Cos. by L. W. Bailey, pp. 5-31 G (82-84).

NEW BRUNSWICK—Cont.

York Co.—Cont.

Report on superficial geology of Western New Brunswick with special reference to area in York and Carleton Cos. by R. Chalmers, pp. 5-47 GG (82-84).

QUEBEC.

Argenteuil Co.

Laurentian System in, pp. 38-49, 836-841 (1863).

Potsdam Group in, pp. 94, 113 (1863).

Chazy Formation in, p. 123 (1863).

Superficial geology of, p. 917 (1863).

Arthabaska Co.

The rocks of the Quebec Group in, pp. 238, 241-242, 253 (1863).

Economic minerals of, p. 723 (1863), 285 (63-66).

List of copper localities in. pp. 314-315 (63-66).

Bagot Co.

The rocks of the Quebec Group in, p. 244 (1863)

Mineral species of, pp. 455, 515, 517 (1863).

Economic minerals of, pp. 604, 690, 713-717, 739 (1863).

Report by Mr. Jas. Richardson on rocks of Quebec Group, references to, p. 33 (63-66).

List of copper localities in, p. 308 (63-66).

Notes on microscopical structure of rocks from, included in, pp. 3-23 A (80-82).

Beauharnois Co.

Potsdam Group in, pp. 90, 105-106, 109 (1863).

Calcareous Formation in, p. 113 (1863).

Mineral species and economic materials of, pp. 459, 813 (1863).

Beauce Co.

Notes on the gold of Eastern Canada, being reprints of portions of the various reports of the Geological Survey of Canada from 1848-1863, Montreal, 1864.

Quebec Group in, p. 254 (1863).

The Gaspé Series in, pp. 427-429 (1863)

Note on Palæozoic rocks of, p. 603 (1863).

Economic minerals of, pp. 731, 739, 752, 754, 798-799 (1863).

Report on gold fields of the Chaudière River by A. Michel, pp. 49-77 (63-66) and T. S. Hunt, pp. 79-90 (63-66).

Notes on gold fields of, by A. R. C. Selwyn, pp. 251-282 (70-71).

Bellechasse Co.

The rocks of the Quebec Group in, p. 231 (1863).

Economic minerals of, p. 684 (1863).

Lower Silurian and Cambrian rocks of, in report by James Richardson, with map, 8 m. = 1 in., pp. 119-141 (66-69).

QUEBEC—Cont.

Berthier Co.

- The Potsdam Group in, p. 95 (1863).
The Trenton Group in, p. 149 (1863).

Bonaventure Co.

- The rocks of the Gaspé Series in, pp. 415-418, 445-450 (1863).
Report on geology of shore of Bay of Chaleurs, by R. W. Ells, pp. 6-20 D. (80-82), with maps of part of, scale 4 m. = 1 in. (Dalhousie and Bathurst sheets.)

Brome Co.

- The rocks of the Quebec Group exposed in, pp. 239, 247-251 (1863).
Mineral species found in, pp. 457, 470, 472, 480, 494, 502, 504, 507 (1863).
Sedimentary and eruptive rocks of, pp. 600, 607, 613, 656 (1863).
Economic minerals of, pp. 677, 680, 691, 721, 730, 731, 739, 752, 756, 797, 799, 809, 812, 828 (1863).
Report on geology of Eastern Townships by Jas. Richardson, references pp. 33-38 (63-66.)
List of copper localities in, p. 298 (63-66.)
Notes on rocks of, by A. R. C. Selwyn and F. D. Adams, pp. 3-23 A. (80-82.)

Chambly Co.

- The Utica and Hudson River Formations in, pp. 208-209 (1863).
The Quebec Group in, p. 280 (1863).
Mineral species found in, pp. 476, 481 (1863).
Mineral waters of, pp. 536, 550 (1863).
Composition of soils of, pp. 638-640 (1863).
Eruptive rocks of, pp. 657-658 (1863).

Champlain Co.

- The Potsdam Group in, p. 95 (1863).
The Trenton Group in, p. 152 (1863).
Utica and Hudson River in, p. 204 (1863).
Mineral waters of, p. 536 (1863).
Economic minerals of, pp. 685, 782 (1863).
Summary of work on head waters of St. Maurice River by A. Webster, p. 8, summ. (69-70).
St. Maurice River above Kirkendatch, report by Jas. Richardson, pp. 283-308 (70-71).

Charlevoix Co.

- Laurentian System in, pp. 35, 46 (1863).
The Trenton Group of, pp. 160-163 (1863).
Mineral species, mineral water, pp. 501, 534 (1863).
Economic minerals of, pp. 754, 807 (1863).
Superficial geology of, pp. 922, 923 (1863).

Chateauguy Co.

- Potsdam Group in, pp. 88-89 (1863).
Economic minerals of, p. 801 (1863).

Chicoutimi Co.

- The Laurentian System in, p. 46 (1863).
Observations on the geology of the Saguenay Region by J. C. K. Laflamme, pp. 5-18 D. (82-84).

QUEBEC—Cont.

Compton Co.

- The Gaspé Series in, pp. 430-431, 434 (1863).
Palæozoic rocks of, p. 617 (1863).
Economic minerals of, p. 831 (1863).
Notes on the gold of Eastern Canada, being reprints of the various reports of the Survey from 1848 to 1863 (Montreal, 1864).

Dorchester Co.

- The Trenton Group in, p. 140 (1863).
Notes on the gold of Eastern Canada, reprint from reports from 1848-1863 (Montreal, 1864).
Lower Silurian rocks of, described in report by Jas. Richardson, with map, 8 m. = in. pp. 119-141 (66-69).

Drummond Co.

- The Utica and Hudson River Formations in, p. 205 (1863).
The Quebec Group in, pp. 239, 243-244, (1863).
Mineral species found in, p. 525 (1863).
Sedimentary rocks of, pp. 603-604 (1863).
Economic minerals of, pp. 690, 712, 713, 718-719, 739, 769, 809, 831 (1863).
Superficial geology of, p. 925, (1863).
List of copper localities in, pp. 308-312 (63-66.)

Gaspé Co.

- The Gaspé Series in, pp. 391-412, 437-445, 880-886 (1863).
Mineral species in, pp. 500, 521 (1863).
Economic minerals of, pp. 734, 789, 791-792 (1863).
Superficial deposits of, p. 922 (1863).
Petroleum, its geological relations, special reference to occurrence in Gaspé, by T. S. Hunt, with map of part of Gaspé, scale, 4 m. = 1 in. (Quebec, 1865).
Report on rocks of Grand Pabos District and Cape Macquereau by R. W. Ells, pp. 15-17 D. (80-82).
Report on geology of Gaspé Peninsula by R. W. Ells, pp. 1-32 DD (80-82).
Report on explorations and surveys, interior of Gaspé Peninsula by R. W. Ells, pp. 5-34 E. (82-84).
Report on explorations in vicinity of Shick-shock Mountains by A. P. Low, pp. 5-21 F. (82-84).

Hochelaga Co.

- The Chazy Formation in, pp. 125, 132 (1863).
The Trenton Group in, pp. 136-144 (1863).
Utica and Hudson River Formations in, p. 207 (1863).
Onondaga and Lower Helderberg, pp. 355-357 (1863).

Huntingdon Co.

- The Potsdam Group in, pp. 88-89 (1863).
The Quebec Group in, p. 235 (1863).
Economic minerals of, pp. 782, 829 (1863).

QUEBEC—Cont.

Iberville Co.

- Utica and Hudson River Formations in, pp. 205, 209 (1863).
 Mineral waters of, pp. 541, 562 (1863).
 Eruptive rocks of, p. 664 (1863).

Jacques Cartier Co.

- The Potsdam Group in, pp. 91, 114 (1863).
 The Chazy Formation in, pp. 125, 131-132 (1863).
 The Trenton Group in, pp. 141-144 (1863).
 Lower Helderberg Formation in, p. 357 (1863).
 Superficial geology of, pp. 917-920 (1863).

Joliette Co.

- The Potsdam Group in, p. 95 (1863).
 The Trenton Group in, p. 149 (1863).

Kamouraska Co.

- The Quebec Group in, p. 259 (1863).
 The Lower Silurian and Cambrian rocks of, described in report by Jas. Richardson, map 8 m. = 1 in., pp. 119-141 (66-69).

Lake Mistassini Region.

- Report by Jas. Richardson, pp. 283-308 (70-71).

Lake St. John Co.

- Laurentian rocks of, p. 46 (1863).
 Trenton Group in, pp. 164-165 (1863).
 Utica and Hudson River Formations in, p. 220 (1863).
 Report by Jas. Richardson on route to Lake Mistassini by the Ashuapmouchouan River, pp. 283-308 (70-71).
 Observations on geology of Saguenay region by J. C. K. Laflamme, pp. 5-18 D. (82-84).

Laprairie Co.

- The Trenton Group in, p. 140 (1863).
 Utica and Hudson River Formations in, p. 207 (1863).

L'Assomption Co.

- Chazy Formation in, p. 133 (1863).
 Trenton Group in, pp. 141, 145 (1863).

Laval Co.

- Calcareous Formation in, p. 114 (1863).
 Chazy Formation in, p. 131 (1863).
 The Trenton Group in, p. 141 (1863).

Levis Co.

- Utica and Hudson River Formations in, p. 203 (1863).
 The Quebec Group in, pp. 230, 232, 241, 860-864 (1863).
 Mineral species in, pp. 484-487 (1863).
 Superficial geology of, pp. 921, 926-928 (1863).

L'Islet Co.

- The Quebec Group in, pp. 258-259 (1863).
 Lower Silurian and Cambrian rocks of, in report by Jas. Richardson with map, 8 m. = 1 in., pp. 119-141 (66-69).

QUEBEC—Cont.

Lotbinière Co.

- Utica and Hudson River Formations in, p. 203 (1863).
 Superficial geology of, pp. 920-921 (1863).

Magdalen Islands.

- Report on geology of, by James Richardson, pp. 1-13 G (79-80).

Maskinongé Co.

- The Potsdam Group in, p. 95 (1863).
 The Trenton Group in, p. 151 (1863).
 Superficial geology of, p. 921 (1863).

Matane Co.

- The Quebec Group in, pp. 262-266 (1863).
 The Anticosti Group in, p. 309 (1863).
 The Gaspé Series in, pp. 413-415, (1863).
 Economic minerals of, p. 766 (1863).
 Superficial geology of, p. 922 (1863).

Megantic Co.

- The Quebec Group in, pp. 242, 257 (1863).
 The Gaspé Series in, p. 431 (1863).
 Mineral species of, pp. 456, 498, 508, 510, 519 (1863).
 Economic minerals of, pp. 677, 681, 719, 724-730, 755, 767 (1863).
 Report on Quebec Group, by Jas. Richardson, p. 33 (63-66).
 List of copper localities in, pp. 318-320 (63-66).
 Notes on rocks of Quebec Group in, by A. R. C. Selwyn, with microscopical examination of some rocks by F. D. Adams, pp. 3-23 A (80-82).

Missisquoi Co.

- The Quebec Group in, pp. 245, 287, 844-860, 879 (1863).
 Minerals in, p. 516 (1863).
 Economic minerals of, pp. 683, 690, 766, 826 (1863).
 List of copper localities in, pp. 295-297 (63-66).
 Notes on some rocks of Quebec Group, by A. R. C. Selwyn, with microscopic examinations by F. D. Adams, pp. 3-23 A (80-82).

Montcalm Co.

- The Potsdam Group in, p. 95 (1863).

Montmagny Co.

- The Quebec Group in, p. 258 (1863).
 Mineral waters of, pp. 534, 548 (1863).
 Lower Silurian and Cambrian rocks of, by Jas. Richardson, with map 8 m. = 1 in., pp. 119-141 (66-69).

Montmorency Co.

- Laurentian System in, pp. 34, 49 (1863).
 Potsdam Group in, p. 96 (1863).
 The Trenton Group in, pp. 158-160 (1863).
 Utica and Hudson River Formations in, pp. 198-201 (1863).
 The Quebec Group in, pp. 225-234, (1863).
 Minerals of, pp. 468, 478-479, 487, 511 (1863).
 The rocks of the Laurentian in, p. 589 (1863).
 Economic minerals of, p. 768 (1863).

QUEBEC—Cont.

Napierville Co.

The eruptive rocks of, p. 642 (1863).
Economic minerals of, p. 782 (1863).

Nicolet Co.

Utica and Hudson River Formations in, p. 205 (1863).
Mineral springs in, pp. 540, 550, 562 (1863).
List of copper localities in, p. 318 (63-66).

Ottawa Co.

The Laurentian System in, pp. 38-49 (1863).
Potsdam sandstones in, p. 94 (1863).
The Chazy Formation in, pp. 125, 129 (1863).
The Gatineau River above Desert River, report by Jas. Richardson, pp. 283-308 (70-71).
Notes on plumbago and phosphate deposits in, by H. G. Vennor, pp. 139-146 (73-74).
Investigations on Laurentian rocks of, by H. G. Vennor, pp. 139-146 (73-74).
Apatite and plumbago deposits of Buckingham, Portland and Hull Townships, by H. G. Vennor, pp. 301-320 (76-77). Map, scale 4 m. = 1 in.
Report on minerals of some of the apatite-bearing veins, by B. J. Harrington, pp. 1-37 G (77-78).
Report on apatite deposits of, by J. F. Torrance, pp. 5-32 J (82-84).

Pontiac Co.

The Chazy Formation in, pp. 125, 129 (1863).
Report on explorations in Upper Ottawa waters, the Lac des Quinze and Lake Mijicouaja, by W. McOuat, pp. 130-131 (72-73).
Investigation on Laurentian rocks, by H. G. Vennor, pp. 277-301 (76-77).

Portneuf Co.

The Potsdam Group in, p. 96 (1863).
The Trenton Group in, pp. 152-155 (1863).
Utica and Hudson River Formations in, pp. 201-203 (1863).
Economic minerals of, p. 829 (1863).

Quebec Co.

The Potsdam Group in, p. 96 (1863).
The Trenton Group in, pp. 156-157 (1863).
Utica and Hudson River Formations in, p. 201 (1863).
The Quebec Group in, p. 230 (1863).
Mineral waters of, p. 541 (1863).
Economic minerals of, pp. 721, 805 (1863).
Superficial geology of, p. 925 (1863).

Richelieu Co.

Mineral waters and springs of, pp. 544, 550 (1863).
Superficial geology of, p. 925 (1863).

Richmond Co.

The Quebec Group in, pp. 240-253 (1863).
Minerals of, pp. 494, 497, 504 (1863).
Palaeozoic rocks of, p. 606 (1863).
Economic minerals of, pp. 722-723, 749, 799, 811, 824, 830 (1863).

QUEBEC—Cont.

Richmond Co.—Cont.

Notes on the gold of Eastern Canada, reprints from reports from 1848 to 1863 (Montreal, 1864).
Rocks of the Quebec Group in, notes by Jas. Richardson, pp. 38-44 (63-66).
List of copper localities in, pp. 310, 312, 314 (63-66).
Notes on some rocks of, by A. R. C. Selwyn, with microscopical examination by F. D. Adams, pp. 3-23 A. (80-82).

Rimouski Co.

The Quebec Group in, pp. 261-266 (1863).
Anticosti Group and Guelph Formation in, p. 309 (1863).
The Gaspé Series in, pp. 413-419 (1863).
Economic minerals of, pp. 766, 783 (1863).
Superficial geology of, pp. 893, 922 (1863).

Rouville Co.

Utica and Hudson River Formations in, p. 209 (1863).
The Quebec Group in, p. 243 (1863).
Mineral species in, pp. 464, 479, 502 (1863).
Palaeozoic and eruptive rocks of, pp. 634-635, 638, 664, 667 (1863).

Saguenay Co.

Laurentian System in, p. 46 (1863).
The Potsdam Group in, p. 96 (1863).
Calcareous Formation at Mingan Is., p. 119 (1863).
Chazy Formation at Mingan Is., p. 134 (1863).
Trenton Group at Mingan and Saguenay, p. 164 (1863).
The Quebec Group on north shore, p. 289 (1863).
Economic minerals of, pp. 755, 804 (1863).
Superficial geology of, pp. 923-924 (1863).
Report on north shore of the St. Lawrence River, by Jas. Richardson, pp. 305-311 (66-69).

Shefford Co.

The Quebec Group in, pp. 239, 240, 244-245 (1863).
Mineral species of, pp. 476, 502 (1863).
The rocks of, sedimentary and eruptive, pp. 614, 657 (1863).
Economic minerals of, pp. 712, 718, 721, 722, 731, 812 (1863).
The Quebec Group in, by Jas. Richardson, pp. 34-35 (63-66).
List of copper localities in, pp. 300, 301, 303, 304 (63-66).
Notes on the rocks of South-eastern Quebec, by A. R. C. Selwyn, with microscopical examination of some rocks, by F. D. Adams, pp. 3-23 A. (80-82).

Sherbrooke Co.

The Quebec Group in, pp. 250, 252 (1863).
Mineral species in, pp. 467, 469, 472, 496, 517 (1863).
The Palaeozoic rocks of, pp. 599, 603, 609, 610 (1863).

QUEBEC—Cont.

Sherbrooke Co.—Cont.

Economic minerals of, pp. 691, 731, 732, 738, 748, 825, 830, 834 (1863).

Notes on gold of Eastern Canada, reprint from reports from 1848-1863 (Montreal, 1864).

Report by A. Michel on gold of, pp. 62-63, 65 (63-66).

Notes on the rocks of the Quebec Group in, by Jas. Richardson, pp. 39, 40-43 (63-66).
List of copper localities in, pp. 302-305 (63-66).

Notes on the rocks of South-eastern Quebec, by A. R. C. Selwyn, with microscopical examination of some rocks by F. D. Adams, pp. 3-23 A (80-82):

Soulanges Co.

Superficial geology of, p. 917 (1863).

Stanstead Co.

The Gaspé Series in, pp. 432-437 (1863).

Mineral species in, pp. 485, 507, 514 (1863).

Economic minerals of, pp. 734, 739, 752, 766-767 (1863).

Superficial geology of, p. 910 (1863).

The Quebec Group in, by Jas. Richardson, pp. 40-43 (63-66).

List of copper localities in, p. 305 (63-66).

Notes on rocks of, by A. R. C. Selwyn, with microscopic examination of some rocks by F. D. Adams, pp. 3-23 A (80-82).

St. Hyacinthe Co.

The Trenton Group in, pp. 138-140 (1863).

Utica and Hudson River Formations in, pp. 205, 209-210 (1863).

Mineral waters of, p. 544 (1863).

Analyses of rocks and soils of, pp. 638-640 (1863).

Economic minerals of, p. 766 (1863).

St. John Co.

The Trenton Group in, p. 139 (1863).

Economic minerals of, p. 782 (1863).

St. Maurice Co.

The Potsdam Group in, p. 95 (1863).

The Trenton Group in, p. 152 (1863).

Utica and Hudson River Formations in, p. 204 (1863).

Economic minerals of, p. 782 (1863).

Temiscouata Co.

The Quebec Group in, p. 259 (1863).

The Gaspé Series in, pp. 419-425 (1863).

Terrebonne Co.

The Laurentian System in, p. 34 (1863).

The Potsdam Group in, p. 95 (1863).

The Chazy Formation in, p. 133 (1863).

The Trenton Group in, p. 141 (1863).

Two Mountains Co.

The Potsdam Formation in, pp. 91, 95 (1863).

The Calciferous Formation in, p. 114 (1863).

QUEBEC—Cont.

Vaudreuil Co.

Potsdam Formation in, pp. 90-91 (1863).

Calciferous Formation in, pp. 112-114 (1863).

Superficial geology of, pp. 896, 917 (1863).

Verehères Co.

Lower Helderberg Group in, p. 354 (1863).

Mineral waters of, p. 549 (1863).

Wolf Co.

The Quebec Group in, pp. 253-254, 876 (1863).

The Gaspé Series in, pp. 426, 429-433 (1863).

Mineral species in, pp. 456, 469, 472, 504 (1863).

Palaeozoic rocks of, p. 617 (1863).

Economic minerals of, pp. 733, 748-749, 803, 827-828 (1863).

Notes on the gold in Eastern Canada, reprint from reports of survey, 1848-1863, (Montreal 1864).

The Quebec Group in, by Jas. Richardson, pp. 44-45 (63-66).

List of copper localities in, pp. 315-318 (63-66).

Notes on rocks of, by A. R. C. Selwyn with microscopical examination by F. D. Adams, pp. 3-23 A (80-82).

Yamaska Co.

Utica and Hudson River Formations in, p. 205 (1863).

ONTARIO.

Addington Co.

The Trenton Group in, pp. 179, 185 (1863).

Rocks of the Laurentian System in, p. 593 (1863).

Economic minerals of, pp. 764, 780, 823 (1863).

Superficial geology of, p. 895 (1863).

Report on Townships of Kaladar and Anglesea, included in report by H. G. Vennor on Hastings Co. Map 4 m. = 1 in., pp. 143-171 (66-69),

Geology of northern part included in report by H. G. Vennor on Counties of Frontenac, Leeds and Lanark, pp. 136-162 (72-73).

Algoma District.

Remarks on the mining region of Lake Superior, addressed to the Committee of the Honourable the Executive Council, and report on mining locations claimed on the Canadian shores of the lakes, by W. E. Logan, Montreal, 1847.

Report on the North Shore of Lake Huron, with appendix on the contents of lodes, by W. E. Logan, Montreal, 1849, with map showing plan of location and part of Bruce Mines.

The Laurentian System in, pp. 46-48 (1863).

The Huronian Series in, pp. 55, 57, 56-61, 841-844 (1863).

Upper Copper-bearing rocks of Lake Superior, pp. 71, 83 (1863).

ONTARIO—Cont.

Algoma District—Cont.

- The Trenton Group in, p. 195 (1863).
 Guelph Formation in, p. 321 (1863).
 Mineral species in, pp. 454, 456, 459, 497, 500, 504-506, 509 (1863).
 Economic geology of, pp. 690, 694-695, 700, 701, 737, 738, 809 (1863).
 Superficial geology of, pp. 894, 906-908 (1863).
 Abitibi River, report on survey of, by R. Bell, pp. 33-37 C (77-78).
 Albany River, report by R. Bell on part above mouth of Kenogami River, pp. 109-112 (71-72).
 Kenogami or English River, report by R. Bell on upper part to Pembina Island, pp. 338-351 (70-71), lower part, pp. 112-114 (71-72).
 Killarney, report on geology of vicinity of, by R. Bell, pp. 208-210 (76-77).
 Lake Huron north shore, geology of, by R. Bell, pp. 193-213 (76-77).
 Lake Superior, report by Thos. Macfarlane on geology of east shore, pp. 115-147 (63-66).
 Mattagami River, report on route from Montreal River to Moose River, by R. Bell pp. 296-325 (75-76).
 Michipicoten River, report by R. Bell on, pp. 331-336 (75-76). Note by R. Bell on, pp. 3-4 C (80-82).
 Missinaibi River, report by R. Bell on route from Moose River to Lake Superior, pp. 294-342 (75-76).
 Moose River Basin, report by R. Bell on Mattagami, Missinaibi and Moose rivers, pp. 309-341 (75-76). Report by R. Bell on geology, with map, scale 8 m. = 1 in., pp. 1-9 C (80-82).
 Sault Ste. Marie, geology of vicinity of, by R. Bell, pp. 211-213 (76-77).

Brant Co.

- The Guelph Formation in, pp. 323-324 (1863).
 Onondaga and Lower Helderberg Groups in, pp. 349-350 (1863).
 Mineral waters of, pp. 533, 547 (1863).
 Analyses of soils of, pp. 639-640 (1863).
 Economic geology of, pp. 682, 762 (1863).
 Superficial geology of, p. 902 (1863).

Bruce Co.

- Guelph Formation in, pp. 319, 342 (1863).
 Onondaga and Lower Helderberg in, p. 351 (1863).
 Mineral waters of, p. 535 (1863).
 Economic geology of, pp. 764, 821, 835 (1863).
 Superficial geology of, pp. 894, 899, 913 (1863).

Carleton Co.

- Potsdam Group in, pp. 93-94 (1863).
 Calciferous Formation in, pp. 117-118 (1863).
 Chazy Formation in, pp. 127-128, 129 (1863).

ONTARIO—Cont.

Carleton Co.—Cont.

- The Trenton Group in, pp. 165-168, 174-175 (1863).
 Utica and Hudson River Formations in, p. 219 (1863).
 Mineral species of, pp. 457, 467, 479 (1863).
 Mineral waters of, pp. 537, 549 (1863).
 Rocks, soils and clays of, pp. 619, 622 (1863).
 Economic minerals of, pp. 689, 765, 780, 806, 817 (1863).
 Superficial geology of, p. 916 (1863).

Dufferin Co.

- Guelph Formation in, pp. 315-316, 328, 334 (1863).

Dundas Co.

- The Trenton Group in, p. 173 (1863)

Durham Co.

- Superficial geology of, p. 895 (1863).

Essex Co.

- The Oriskany and Corniferous Formations in, p. 378 (1863).

Frontenac Co.

- The Laurentian System in, pp. 31, 46 (1863).
 Potsdam Group in, pp. 97-100 (1863).
 The Trenton Group in, pp. 177, 179, 183, 185, 295 (1863).
 Mineral species of, pp. 459, 513, 516 (1863).
 Mineral water of, p. 539 (1863).
 Rocks of Laurentian and Huronian in, pp. 593, 632 (1863).
 Economic geology of, pp. 674, 687, 764-765, 794, 795, 799, 806, 812, 816, 829 (1863).
 Superficial geology of, p. 904 (1863).
 Geology of part of, described in abstract report by H. G. Vennor on Leeds and Lanark Counties, pp. 309-315 (70-71).
 Report on Counties of Leeds, Frontenac and Lanark, by H. G. Vennor, pp. 121-129 (71-72).
 Geology of northern part of, in report by H. G. Vennor on Frontenac, Leeds and Lanark Counties, pp. 136-179 (72-73).
 Explorations and surveys in Frontenac, Leeds and Lanark Counties, by H. G. Vennor, pp. 104-109 (73-74).
 Report of explorations and surveys in rear portions of Frontenac and Lanark Counties, by H. G. Vennor, with notes on economic minerals of Ontario, pp. 105-165 (74-75).

Glengarry Co.

- Calciferous Formation in, p. 116 (1863).
 The Chazy Formation in, p. 126 (1863).
 The Trenton Group in, pp. 171-172 (1863).
 Mineral species in, p. 462 (1863).

Grenville Co.

- Calciferous Formation in, pp. 111, 118 (1863).
 Superficial geology of, p. 924 (1863)

ONTARIO—Cont.

Grey Co.

- Utica and Hudson River Formations in, pp. 211, 213 (1863).
 Medina and Clinton Formations in, pp. 315-318, 328, 329 (1863).
 Guelph Formation in, p. 342 (1863).
 Onondaga and Lower Helderberg Groups in, p. 351 (1863).
 Economic geology of, pp. 683, 764, 804 (1863).
 Superficial geology of, pp. 894, 898, 900, 908-909 (1863).

Haldimand Co.

- Onondaga and Lower Helderberg Groups in, pp. 347, 348, 349, 354-355 (1863).
 Oriskany and Corniferous Formations in, pp. 360-361, 366, 369-370 (1863).
 Mineral species of, p. 455 (1863).
 Palaeozoic rocks of, p. 625 (1863).
 Economic geology of, pp. 762, 807, 815 (1863).
 Superficial geology of, p. 902 (1863).

Halton Co.

- Guelph Formation in, pp. 316, 327, 330 (1863).
 Economic geology of, pp. 770, 815 (1863).

Hastings Co.

- The Laurentian System in, p. 32 (1863).
 Potsdam Group in, p. 100 (1863).
 The Trenton Group in, pp. 180-182, 186, 188, 295 (1863).
 Mineral species of, pp. 455, 466, 469, 493, 504, 508, 514 (1863).
 Rocks of the Laurentian in, p. 593 (1863).
 Economic geology of, pp. 675, 809, 823, 834 (1863).
 Superficial geology of, p. 909 (1863).
 Report on the gold region of the County of Hastings, transmitted to the Hon. Commissioner of Crown Lands, January 29th, 1867, by T. S. Hunt and A. Michel, (Montreal, 1867).
 Report by Thos. Macfarlane, on resources of, pp. 91-113 (63-66).
 Report by H. G. Vennor on geology and economic resources of northern part. Map, 4 m. = 1 in. pp. 143-171 (66-69).
 Geological position of ore zones worked for gold, notes by H. G. Vennor, pp. 129-141 (71-72).
 Report on eastward extension of rocks of, by H. G. Vennor, with map showing position of gold mines. Map, scale, 1 m. = 1 in., pp. 136-158 (72-73).
 Notes on economic minerals of Ontario. References to gold, copper, galena and plumbago, by H. G. Vennor, pp. 159-165 (74-75).

Huron Co.

- The Oriskany and Corniferous Formations in, pp. 371, 376-377 (1863).
 Superficial geology of, pp. 896-900 (1863).

ONTARIO—Cont.

Huron Co.—Cont.

- Geology and chemistry of salt deposits in, by T. S. Hunt, pp. 211-244 (66-69).
 Observations on trade and manufacture of salt, by J. Lionel Smith, pp. 267-300 (74-75).
 Report by T. S. Hunt, on salt region of, and notes on Mr. Attrill's borings, pp. 221-243 (76-77).

Kent Co.

- Analyses of soils of, pp. 669-640 (1863).
 Superficial geology of, p. 913 (1863).

Lambton Co.

- Oriskany and Corniferous Formations in, p. 379 (1863).
 Hamilton Formation and Portage and Chemung Groups in, pp. 382-384, 386, 387-388 (1863).
 Mineral species of, p. 523 (1863).
 Palaeozoic rocks of, p. 627 (1863).
 Economic geology of, pp. 784-786 (1863).
 Superficial geology of, p. 901 (1863).

Lanark Co.

- Laurentian System in, pp. 36-37 (1863).
 Potsdam Group in, pp. 93, 107, 109 (1863).
 Calciferous Formation in, pp. 117-118 (1863).
 Chazy Formation in, p. 128 (1863).
 The Trenton Group in, p. 175 (1863).
 Mineral species of, pp. 458, 460-461, 466-467, 470, 472, 474, 477, 479, 481, 483, 491, 493-495, 497, 499, 503, 514, 521 (1863).
 Analyses of soils of, p. 636 (1863).
 Economic geology of, pp. 688-690, 692, 761, 771, 780, 794, 798, 824, 827, 833 (1863).
 Superficial geology of, pp. 895, 924, 926-928 (1863).
 Part of described in report by H. G. Vennor, on Frontenac, Leeds and Lanark Counties, pp. 309-315 (70-71).
 Notes on phosphate of lime and mica, by Gordon Brome, p. 316-321 (70-71).
 Report by H. G. Vennor on the Counties of Leeds, Frontenac and Lanark, pp. 122-129 (71-72).
 Report by H. G. Vennor on Counties of Frontenac, Leeds and Lanark, with plan of Dalhousie Iron Mine, pp. 136-179 (72-73).
 Report on explorations and surveys in Frontenac, Leeds and Lanark Counties, by H. G. Vennor, with map, scale, 2 m. = 1 in., pp. 104-128 (73-74).
 Report of explorations and surveys in the rear portions of Frontenac and Lanark Counties, and notes on economic minerals with map of Lanark County, scale, 4 m. = 1 in., by H. G. Vennor, pp. 105-165 (74-75).

Leeds Co.

- The Laurentian System in, pp. 31-33 (1863).
 The Potsdam Group in, pp. 91-93 102 (1863).
 Calciferous Formation in, p. 118 (1863).
 Guelph Formation in, p. 306 (18 63)

ONTARIO—Cont.

Leeds Co.—Cont.

- Mineral species of, pp. 458, 460, 510, 511, 514, 516 (1863).
 Rocks of, sedimentary and metamorphic, pp. 573, 639, 640 (1863).
 Economic minerals of, pp. 674, 682, 688, 692, 693, 747, 750, 751, 761, 765, 771, 813, 816, 822 (1863).
 Notes on rock formations and economic minerals of northern part of, in report by H. G. Vennor, pp. 309-315 (70-71).
 Notes on phosphate of lime and mica of South Burgess, by Gordon Brome, pp. 316-321 (70-71).
 Report by H. G. Vennor on Counties of Leeds, Frontenac and Lanark, pp. 121-129 (71-72).
 Report by H. G. Vennor on Counties of Frontenac, Leeds and Lanark, pp. 136-179 (72-73).
 The crystalline limestone bands in, by H. G. Vennor, pp. 104-106 (73-74).

Lincoln Co.

- The Medina and Clinton Formations in, pp. 312, 324 (1863).
 Mineral species in, pp. 517, 530 (1863).
 Mineral waters of, p. 540 (1863).
 Analyses of soils of, p. 641 (1863).
 Superficial geology of, p. 902 (1863).

Manitoulin Islands.

- Huronian on St. Joseph Island, p. 63 (1863).
 Trenton Group in, pp. 194-196 (1863).
 Utica and Hudson River Formations in, pp. 216-219 (1863).
 Medina, Clinton and Niagara Formations in, pp. 320, 333-334 (1863).
 Economic geology of, p. 912 (1863).
 Report by R. Bell on geology of Grand Manitoulin Island, pp. 165-179 (63-66).
 Report by R. Bell on part of Grand Manitoulin, Drummond and Cockburn islands, pp. 109-117 (66-69).
 List of plants from the islands, by Dr. John Bell, pp. 449-469 (66-69).

Middlesex Co.

- Analyses of soil of, p. 641 (1863).
 Superficial geology of, pp. 898, 903, 913 (1863).

Nipissing District.

- Laurentian System in, pp. 46-47 (1863).
 Huronian Series in, pp. 51-52 (1863).
 Mineral species in, p. 509 (1863).
 Economic geology of, p. 678 (1863).
 Superficial geology of, pp. 894, 906-908, (1863).
 Report on the country between Lakes Témiscaming and Abitibi, by W. McOuat, pp. 125-129 (72-73).
 Report on survey of Abitibi River, by R. Bell, pp. 33-37 C (77-78).

ONTARIO—Cont.

Norfolk Co.

- Oriskany and Corniferous Formations in, p. 364 (1863).
 Mineral species in, p. 530 (1863).
 Mineral waters of, pp. 536-537 (1863).
 Economic minerals of, p. 683 (1863).
 Superficial geology of, pp. 894, 902 (1863).

Northumberland Co.

- The Trenton Group in, p. 188 (1863).
 Economic minerals of, p. 676 (1863).

Ontario Co.

- The Trenton Group in, pp. 189, 193 (1863).
 Mineral species in, p. 488 (1863).
 Mineral waters of, p. 547 (1863).

Oxford Co.

- The Corniferous Formation in, p. 371 (1863).
 Mineral species of, p. 455 (1863).
 Economic minerals of, p. 787 (1863).
 Superficial geology of, pp. 898, 903 (1863).

Parry Sound District.

- Report on the geology of the north-east coast of, by R. Bell, pp. 195-203 (76-77).
 The crystalline limestone bands of, by R. Bell, pp. 203-207 (76-77).

Peel Co.

- Medina, Clinton and Niagara Formations in, pp. 315, 327-328 (1863).
 Superficial geology of, p. 895 (1863).

Perth Co.

- The Corniferous Formation in, p. 371 (1863).
 Superficial geology of, p. 900 (1863).

Peterborough Co.

- Laurentian System in, p. 36 (1863).
 Trenton Group in, pp. 189-190 (1863).
 Mineral species in, p. 458 (1863).
 Economic minerals of, pp. 676, 833 (1863).
 Eastern part included in report by H. G. Vennor on North Hastings, pp. 143-171 (66-69).

Prescott Co.

- Chazy Formation in, pp. 124, 126 (1863).
 Trenton Group in, pp. 170-171 (1863).
 Mineral species in, p. 493 (1863).
 Mineral waters of, pp. 532, 535, 538, 541, 548-549, 562 (1863).
 Economic minerals of, pp. 780, 814, 816 (1863).

Prince Edward Co.

- Mineral waters of, pp. 537, 547 (1863).

Rainy River District.

- Report by A. R. C. Selwyn, on the English River from railway to Winnipeg River, pp. 8-18 (72-73).
 Report by R. Bell, on route via Whitewood Lake to Sturgeon Lake, and from Lac des Mille Lacs to Lake of the Woods, via Lonely Lake on the English River, pp. 96-105 (72-73).
 The geology of the line of the Canadian Pacific Railway from English River to Rat Portage, by R. Bell, pp. 11-13 C (80-82).

ONTARIO—Cont.

Rainy River District—Cont.

Report on Lake of the Woods and routes eastward to Eagle Lake and Wabigoon Lake, by R. Bell with map, 4 m. = 1 in. pp. 11-15 C. (80-82).

Report by E. Coste, on gold mines of Lake of the Woods, pp. 3-22 K (82-84).

Renfrew Co.

The Laurentian System in, pp. 24, 27, 31, 35, 46 (1863).

The Chazy Formation in, p. 125 (1863).

Mineral species in, pp. 439, 485, 499, 509 (1863).

Mineral waters of, p. 547 (1863).

Economic minerals of, pp. 765, 780, 814 (1863).

Superficial geology of, p. 930 (1863).

Report on surveys in, by H. G. Vennor, pp. 244-277 (76-77).

Russell Co.

The Potsdam Group in, p. 94 (1863).

The Trenton Group in, pp. 168-170, 174 (1863).

Utica and Hudson River Formations in, p. 219 (1863).

Economic minerals of, p. 780 (1863).

Simcoe Co.

Laurentian System in, p. 47 (1863).

The Trenton Group in, p. 193 (1863).

Utica and Hudson River Formations in, pp. 211, 213 (1863).

Medina and Clinton Formations in, pp. 315-316, 317, 328 (1863).

Mineral species in, p. 528 (1863).

Palæozoic rocks of, p. 622 (1863).

Economic geology of, pp. 770, 784, 804, 814, 815 (1863).

Superficial geology of, pp. 910-911 (1863).

Stormont Co.

The Chazy Formation in, pp. 126-127 (1863).

The Trenton Group in, pp. 172-173 (1863).

Economic geology of, pp. 780, 816, 827 (1863).

Thunder Bay District.

Remarks on the Mining Region of Lake Superior, addressed to the Committee of the Honourable the Executive Council, and report on mining locations claimed on the Canadian shores of the lake, addressed to the Commissioner of Crown Lands, by W. E. Logan, Montreal, 1847.

Laurentian System in, p. 48 (1863).

Huronian Series in, p. 63 (1863).

Upper Copper-bearing Series in, pp. 67-86 (1863).

Economic minerals of, pp. 707, 771 (1863).

Report by Thos. Macfarlane on Upper Copper-bearing rocks of Michipicoten Island, pp. 137-143 (63-66).

Report by R. Bell on region in vicinity of Lake Superior and Lake Nipigon, with map, 4 m. = 1 in., pp. 313-364 (66-69).

ONTARIO—Cont.

Thunder Bay District—Cont.

Postscript by W. E. Logan on R. Bell's report on Nipigon basin, pp. 470-475 (66-69).

Report by R. Bell, on country north of Lake Superior, in the valleys of Black, Pic, Little Pic and White rivers and Long Lake, pp. 322-351 (70-71).

Report by R. Bell on country from Lake Superior to the Albany River, pp. 101-114 (71-72).

Report on the country west of Lake Superior, by R. Bell, International boundary, Black Sturgeon River, and notes on mining of Thunder Bay District, pp. 87-111 (72-73).

Geology of coast of Lake Superior from Bachewana Bay to Michipicoten River by R. Bell, pp. 213-220 (76-77).

Victoria Co.

The Trenton Group in, pp. 190-191 (1863).

Waterloo Co.

Guelph Formation in, pp. 338-340 (1863).

Onondaga Formation in, pp. 347, 351 (1863).

Superficial geology of, pp. 895, 900 (1863).

Welland Co.

Medina and Clinton Formations in, p. 313 (1863).

Niagara Formation in, pp. 322-323 (1863).

Onondaga Formation in, pp. 346-347, 352 (1863).

Lower Helderberg Formation in, p. 354 (1863).

Upper Helderberg Group in, pp. 364, 365, 368, 370 (1863).

Mineral species in, pp. 455, 460, 522 (1863).

Economic geology of, p. 806 (1863).

Superficial geology of, pp. 895, 902 (1863).

Wellington Co.

Medina and Clinton Formations in, pp. 330-331 (1863).

Guelph Formation in, pp. 337, 342-343 (1863).

Onondaga Salt Group in, p. 351 (1863).

Palæozoic rocks of, p. 624 (1863).

Economic geology of, p. 820 (1863).

Superficial geology of, pp. 894, 900 (1863).

Wentworth Co.

Medina and Clinton Formations in, pp. 312-316 (1863).

Niagara Formation of, pp. 325-326, 329 (1863).

Mineral species in, pp. 455, 460 (1863).

Mineral waters of, p. 538 (1863).

Economic geology of, pp. 802, 815 (1863).

Superficial geology of, pp. 898, 902, 903, 914 (1863).

York Co.

Utica and Hudson River Formations in, pp. 212-213 (1863).

Waters of springs and rivers of, p. 542 (1863).

Economic geology of, pp. 801, 829-830 (1863).

Superficial geology of, pp. 895, 898, 903-904, 915 (1863).

MANITOBA.

Boring operations.

Report by W. B. Waud on boring at Assiniboine River, p. 12; at the Big Ridge, p. 14, and on Rat Creek, p. 16 (73-74).

Report by A. R. C. Selwyn on borings near Fort Pelly on the Swan River, pp. 292-293 (75-76).

Report by A. R. C. Selwyn on borings north of Turtle Mountain, and on Souris River, pp. 9-11 A (79-80).

Report by A. R. C. Selwyn on traverse of Winnipeg River and south shore of Lake Winnipeg, pp. 8-18 (72-73).

Report by A. R. C. Selwyn on traverse from Fort Garry to Fort Ellice and of the Saskatchewan River and Cedar Lake, pp. 17-62 (73-74).

Notes on exploration, by R. Bell, of country west of Red River to the Dirt Hills, pp. 69-87 (73-74).

Report on the country west of Lakes Manitoba and Winnipegosis, with notes on the geology of Lake Winnipeg, by R. Bell, pp. 24-56 (74-75).

Report on the country between the Upper Assiniboine River and Lakes Winnipegosis and Manitoba, by J. W. Spencer, pp. 57-70 (74-75).

Report of track-survey of part of eastern shore of Lake Winnipeg, by R. Bell, pp. 22-23 CC (77-78). Map, scale 8 m. = 1 in.

NORTH-WEST AND NORTH-EAST TERRITORIES.

ATHABASCA DISTRICT.

Athabasca River.

Notes by Prof. J. Macoun on botany, geology and topography, pp. 91-93 and 167-172, (75-76).

Report by R. Bell on geology of part of basin, with map, scale 8 m. = 1 in. pp. 5-37 CC (82-84).

Clearwater River.

Notes on geology, topography and botany by Prof. J. Macoun, pp. 93-94, 172-174 (75-76).

Report by R. Bell on Athabasca basin, pp. 25-27 CC (82-84).

*Athabasca River to Peace River.**Lesser Slave Lake.*

Notes by G. M. Dawson on the lake and river, p. 82 B (79-80).

Notes by R. G. McConnell on the lake and routes north and south, p. 89 B (78-79).

Little Smoky River.

Notes by G. M. Dawson on rocks exposed, p. 126 B (79-80).

N.-W. AND N.-E. TERRITORIES—Cont.

Forks of Smoky and Peace Rivers to Fort Assiniboine.

Notes by R. G. McConnell on route, pp. 88-94 B (79-80).

Dunvegan to Athabasca River.

Description of country south to Athabasca River by G. M. Dawson, pp. 52-58B. 63-66 B (79-80).

Peace River Region.

Report by A. R. C. Selwyn from Fort St. John to Dunvegan and Smoky rivers, pp. 56-60 (75-76).

Notes by Prof. J. Macoun, on botany, geology and topography, of lower part of, pp. 87-90, 156-167 (75-76).

Report by G. M. Dawson on Peace River region.

General description of district, pp. 48-78 B (79-80).

Extract from Mr. Cambie's report on valley from Dunvegan to Hudson's Hope and south to Pine River, pp. 61-63 B (79-80).

General physical and climatic features, pp. 66-79 B (79-80).

General relation of rocks, pp. 130-136 B (79-80).

Notes by R. G. McConnell on country north of Dunvegan, to Battle River, pp. 58-61 B (79-80).

EASTERN PART OF DISTRICT OF ATHABASCA.

Churchill River.

Report on exploration by A. S. Cochrane, from Frog Portage to Deer River, pp. 13-14 C (79-80).

Deer River.

Report on exploration by A. S. Cochrane, pp. 14-16 C (79-80).

Reindeer Lake.

Report on exploration by A. S. Cochrane, pp. 14-16 C (79-80).

ALBERTA.

*Northern Part.**Athabasca River.*

Report by G. M. Dawson on, from Drift-pile Camp to the Landing, pp. 79-84 B (79-80).

Report by R. G. McConnell on, from Athabasca Landing to Rivière la Biche, pp. 94-96 B (79-80).

Fort Assiniboine to Lesser Slave Lake.

Notes by R. G. McConnell, pp. 89-94 B (79-80).

Lac la Biche and trail from Victoria.

Notes by R. G. McConnell on, pp. 97-98 B (79-80).

N-W. AND N-E. TERRITORIES—*Cont.**Athabasca Landing to Edmonton.*

Description of trail by G. M. Dawson, pp. 85-87 B (79-80).

Saskatchewan River.

Report by A. R. C. Selwyn, on traverse down, from Rocky Mountain House. Map, 16 m. = 1 in., pp. 40-50 (73-74).

South of Saskatchewan River.

Notes on a journey from Red River to Rocky Mountain House, by A. R. C. Selwyn, pp. 36-42 (73-74).

Southern Part.

Bow and Belly River region, preliminary report on geology and coal deposits of, by G. M. Dawson. Map 10 m. = 1 in., pp. 1-23 B (80-82).

Report by G. M. Dawson, on the country in the vicinity of the Bow and Belly Rivers. Maps, scale 8 m. = 1 in., pp. 1-169 C. (82-84).

SASKATCHEWAN DISTRICT.

Red River to Edmonton.

Notes by A. R. C. Selwyn on journey by trail, pp. 30-36, 42-45 (73-74).

Carlton.

Report on boring operations of 1875 at, by R. W. Ellis, pp. 281-291 (75-76).

Cumberland House to Frog Portage

Report on explorations by A. S. Cochrane via Grassberry River, pp. 11-13 C (79-80).

Cumberland House to Cross Lake.

Report on exploration by A. S. Cochrane pp. 8-10 C (79-80).

Grass River and route to Sipiwesk Lake.

Report by R. Bell on, pp. 27-29 C (78-79).

Saskatchewan River.

Report by A. R. C. Selwyn on traverse from Rocky Mountain House. Map, scale, 16 m. = 1 in., pp. 50-62 (73-74).

ASSINIBOIA.

Report by A. R. C. Selwyn on trail from Red River to Edmonton, pp. 26-30 (73-74).

Swan River.

Report on boring operations near Ft. Pelly by A. R. C. Selwyn, pp. 292-293 (75-76).

Assiniboine Valley.

Report on exploration by R. Bell, pp. 25-32 (74-75).

Qu'Appelle River.

Report on valley and country south of, by R. Bell, pp. 66-90 (73-74).

Souris River.

Boring operations near, during 1880, notes by A. R. C. Selwyn, pp. 1-11 A. (79-80).

N-W. AND N-E. TERRITORIES—*Cont.**Wood Mountain, Dirt Hills and the International Boundary from Souris River to Frenchman's Creek.*

Report by R. Bell, with analyses of lignite from, pp. 76-79 and 90-94, (73-74).

Report by G. M. Dawson on Lignite-Tertiary rocks of, pp. 12-55 A. (79-80).

KEEWATIN.

Norway House to York Factory.

Report by R. Bell on boat route via Hayes River. Map, scale, 8 m. = 1 in., pp. 3-31 CC (77-78).

Nelson River.

Report by R. Bell on upper and lower parts. Map, scale, 8 m. = 1 in., pp. 10-18 CC (77-78).

Report by R. Bell on completion of survey of central part, pp. 12-27 C (78-79).

Churchill River.

Report by R. Bell on traverse of Little Churchill River and lower part of Churchill, pp. 1-44 C (78-79).

York Factory.

Tables by R. Bell, giving seasonal events, opening of navigation, meteorological registers, etc., pp. 20-101 C (79-80).

South of Oxford House.

Notes by R. Bell on A. S. Cochrane's traverses of God and Island lakes, pp. 29-40 C (78-79). Map, scale, 4 m. = 1 in.

UNGAVA.

East Main Coast.

Report by R. Bell on geology and topography of. Map, scale, 4 m. = 1 in., pp. 1-33 C (77-78).

Labrador Coast.

Notes on geology of, by R. Bell, with lists of plants and animals, 10-16 DD, 38-56 DD (82-84).

Hudson Strait.

Notes on the geology, mineralogy zoology and botany of, by R. Bell, pp. 16-62 DD (82-84).

HUDSON BAY.

Report by R. Bell on exploration of East Main Coast. Map, scale, 4 m. = 1 in., pp. 1-33 C (77-78).

Report by R. Bell on a voyage from York Factory to London, 1880, and general account of Hudson Bay, with discussion on navigation of, pp. 16-27 C, 27-38 C (79-80).

Report by R. Bell on geology, mineralogy, zoology and botany of Hudson Strait and Bay, pp. 16-62 DD (82-84).

N.-W. AND N.-E. TERRITORIES—*Cont.**Moose Factory.*

Tables giving seasonal events, sailing of Hudson's Bay Co. ships, meteorological register, pp. 89-113 C (79-80).

York Factory.

Tables giving seasonal events, opening and closing of navigation, sailings of ships, meteorological register, pp. 80-101 C (79-80).

BRITISH COLUMBIA.

SOUTHERN INTERIOR,

(Extending from International Boundary to line between Bute Inlet and Yellow Head Pass).

International Boundary.

Report by H. Bauerman on geology of vicinity of 49th parallel, with sections, pp. 1-42 B (82-84).

South of Thompson River.

Report by G. M. Dawson on portion of the Southern Interior of British Columbia. Map, scale, 8 m. = 1 in., pp. 1-187 B (77-78).

Kamloops Lake south to Similkameen Trail and Okanagan Lake, by G. M. Dawson, pp. 27-62 B (77-78).

Nicola Valley—Report by G. M. Dawson, description of, pp. 31-33 B and 124-150 B (77-78).

Notes on coal rocks of, by G. M. Dawson, pp. 126-129 (76-77).

Okanagan Valley.—Report by G. M. Dawson, pp. 52-57 B. (77-78).

Shuswap Lakes.—Report on, by G. M. Dawson, pp. 22-27 B (77-78).

Similkameen River and Trail.—Report on, by G. M. Dawson, pp. 36-51 B, 87 B, (77-78).

Kootenay District—Note by G. M. Dawson on yield of gold of, p. 116 (76-77).

Thompson River.

Note by A. R. C. Selwyn on character of valley, pp. 24-25 (71-72).

Report by G. M. Dawson on portion of Southern Interior of British Columbia. Older volcanic rocks, Savona Ferry, p. 83 B (77-78).

Terraces and moraines in valley, pp. 149-150 B (77-78).

First gold found in British Columbia, p. 154 B (77-78).

North Branch Thompson River.

Report by A. R. C. Selwyn on exploration of, general description, pp. 25-30 (71-72). Geological notes, p. 60 (71-72.)

BRITISH COLUMBIA—*Cont.**Fraser River.*

Report by A. R. C. Selwyn on expedition up, Journal of expedition, pp. 16-24 (71-72). Geological notes, pp. 54-72 (71-72.)

Notes on botany of valley of, by J. Macoun, pp. 114-128 (75-76.)

Notes by G. M. Dawson, on mines and minerals, placers of Fraser, pp. 106-116 mining locations, list of, p. 140 (76-77).

Note on coal-bearing beds of lower part of, pp. 126-129 (76-77).

Note on silver ores near Hope, p. 131 (76-77).

Report by G. M. Dawson, on portion of Southern Interior of British Columbia.

General notes included in, pp. 9-10 B, 73 B, 148-154 B (77-78).

CENTRAL INTERIOR.

(Northwards to line between Portland Canal and Peace River Pass).

*East of Fraser River.**Cariboo District.*

Note on rocks at Barkerville and Vanwinkle by Jas. Richardson, p. 65 (71-72).

Measurements and surveys made by Jas. Richardson on roads leading to, pp. 74-75 (71-72).

General description of district and notes on mining in, by G. M. Dawson, pp. 107-114 (76-77).

List of mining localities in, by G. M. Dawson, pp. 134-138 (76-77).

Quesnel.

Geology of lignite formation at, by G. M. Dawson, pp. 257-259 (75-76).

Fossil insects of Tertiary beds at, by S. H. Scudder, pp. 266-280 (75-76).

*West of Fraser River.**Chilcotin River to Blackwater River.*

Report by G. M. Dawson, on explorations in British Columbia, mainly in above district, (map of, in report for 1876-77) pp. 233-265 (75-76).

Blackwater River to François Lake and Stuart River.

Exploration by A. R. C. Selwyn, Quesnel to Stuart Lake, pp. 31-32 (75-76).

Exploration by A. R. C. Selwyn, Fort George to Quesnel, pp. 65-66 (75-76).

Notes by Prof. Macoun, on botany of district from Quesnel to Stuart Lake, pp. 128-137 (75-76).

Report on explorations in British Columbia, chiefly in the basins of the Blackwater, Salmon and Nechacco Rivers and François Lake, by G. M. Dawson, map, scale 8 m. = 1 in., pp. 17-94 (76-77).

BRITISH COLUMBIA—Cont.

*North of Fraser River.**Stuart River and Lake to Rocky Mountains.*

Report of exploration by A. R. C. Selwyn, in British Columbia, Journal of expedition Stuart Lake to McLeod Lake, pp. 32-38, 65-66 (75-76).
Geological notes on above, pp. 70-71, 77-79 (75-76).

Notes by J. Macoun on botany of country between Stuart Lake and McLeod Lake, pp. 137-142 (75-76).

Report by G. M. Dawson, on exploration from Port Simpson to Edmonton, parts treating of above district. Map, scale, 8 m. = 1 in., pp. 31-33 B, 106-108 B (79-80).

Parsnip River Valley.—Report by A. R. C. Selwyn, on exploration of, included in, pp. 38-40, 60, and 71-80 (75-76).

Notes by Prof. Macoun, on vegetation and climate of, pp. 142-144 (75-76).

Omineca District.

List of gold workings in, by G. M. Dawson, p. 140 (76-77).

Notes by G. M. Dawson on gold district, assays of silver ores, pp. 110-112 B (79-80).

*Peace and Pine River Valleys.**Peace River.*

Exploration by A. R. C. Selwyn, Journal of expedition, pp. 41-55 (75-76).

Rocks described, pp. 72-77, 80-83 (75-76).

Notes on botany of valley by J. Macoun, pp. 144-156 (75-76).

Report on exploration by G. M. Dawson.

Note on the rocks of the Rocky Mountain belt cut through by valley of Peace River. General relations of rocks, pp. 130-134 B. (79-80).

Coal-bearing character of, pp. 134-136 B (79-80).

Drift deposits of, p. 139 B. (79-80).

Pine River and Pine River Pass.

Report by G. M. Dawson on exploration of, general description of to Lower Forks, pp. 36-46 B. (79-80).

Rocks of Misinchinca River and Pine Pass, pp. 108-110 B. (79-80).

Geology of Pine River (upper part) pp. 112-125 B (79-80).

*Skeena River Basin.**Skeena River.*

Report by G. M. Dawson on exploration of. Map, scale, 8 m. = 1 in.

General description of route to Babine Lake, pp. 9-25 B. (79-80).

Geological observations, pp. 100-105 B. (79-80).

Superficial deposits of, p. 136 B (79-80).

BRITISH COLUMBIA—Cont.

Babine Lake Basin.

Report by G. M. Dawson on exploration.

Map, scale, 8 m. = 1 in.

General description of, pp. 25-31 B (79-80).

Notes on the rocks of, pp. 103-107 B (79-80).

NORTHERN INTERIOR.

Cassiar District.

Notes on gold yield and mining, by G. M. Dawson, pp. 117-118 (76-77).

List of gold workings, pp. 138-140 (76-77).

MAINLAND COAST.

Report by Jas. Richardson on an exploration from Vancouver Island to Wrangel, Alaska, pp. 71-82 (74-75).

Notes on copper ores in Coast Range, by G. M. Dawson, p. 132 (76-77).

Report by Jas. Richardson on coal-bearing rocks of Burrard Inlet. Map, scale, 4 m. = 1 in., pp. 188-190 (76-77).

VANCOUVER ISLAND AND ADJACENT ISLANDS.

Comox Coal Field.

Report by Jas. Richardson on part of. Map, scale, 10 m. = 1 in., pp. 75-81 (71-72).

Notes by J. W. Dawson on fossil plants from coal-bearing rocks of, p. 98 (71-72).

Analyses of rocks and coals from, by B. J. Harrington, pp. 98-100 (71-72).

Report by Jas. Richardson with map showing portion of, scale 2 m. = 1 in., pp. 32-56 (72-73).

On the fossil plants from Vancouver Island, and Queen Charlotte Islands, by J. W. Dawson, pp. 66-71 (72-73).

On the coals of the West Coast, by B. J. Harrington, pp. 76-83 (72-73).

Report by Jas. Richardson on explorations and measurements made along coast and in district, with note on economic minerals of district and neighbouring islands, pp. 95-102 (73-74).

Note on coal measures by G. M. Dawson, pp. 121-125 (76-77).

Report by Jas. Richardson on. Map, scale, 4 m. = 1 in., pp. 161-170 (76-77).

Cowitchan Coal Area.

Report by Jas. Richardson. Map, scale, 4 m. = 1 in., 187-188 (76-77).

Leech River.

Report of a reconnaissance of, by G. M. Dawson, pp. 95-102 (76-77).

Note on production of gold of, p. 144 (76-77).

Nanaimo Coal Field.

Report by Jas. Richardson on part of. Map, scale, 10 m. = 1 in., pp. 73-100 (71-72).

Note by J. W. Dawson on fossil plants from, p. 98 (71-72).

Analyses of rocks and coals by B. J. Harrington, pp. 98-100 (71-72).

BRITISH COLUMBIA—*Cont.*

Report by Jas. Richardson on explorations of 1873, measurements made, note on economic resources, pp. 94-102 (73-74).

Notes and descriptions of fossils from Vancouver Island, by J. F. Whiteaves, pp. 260-268 (73-74).

Note on localities visited in 1874, by Jas. Richardson, pp. 82-83 (74-75).

Note on coal measures of, by G. M. Dawson, pp. 121-125 (76-77).

Report by Jas. Richardson. Map, scale, 4 m. = 1 in. pp. 170-187 (76-77).

Sooke.

Report by Jas. Richardson, on Tertiary rocks of, pp. 190-192 (76-77).

Texada Iron deposits.

Report by Jas. Richardson on rocks, pp. 99-100 (73-74).

Note on, by G. M. Dawson, pp. 129 (76-77).

Victoria.

Crystalline rocks of vicinity, note by A. R. C. Selwyn, pp. 51-52 (71-72).

Note by Jas. Richardson on rocks of, pp. 91-92 (71-72).

Notes on botany of vicinity, by J. Macoun, pp. 110-113 (75-76).

BRITISH COLUMBIA—*Cont.*

QUEEN CHARLOTTE ISLANDS.

Report by Jas. Richardson on coal-field of Skidegate, pp. 56-64 (72-73).

On the fossil plants from British Columbia, by J. W. Dawson, pp. 66-71 (72-73).

On the Mesozoic fossils from British Columbia, by E. Billings, pp. 71-75 (72-73).

On the coals of the West Coast, by B. J. Harrington, pp. 76-83 (72-73).

Correspondence relating to the anthracite of Queen Charlotte Islands, pp. 84-86 (72-73).

Note on coal-bearing rocks, by G. M. Dawson, p. 144 (76-77).

Report on geology and topography of, by G. M. Dawson, with map of islands and plans of some harbours, pp. 1-101 B (78-79).

On the Haida Indians, by G. M. Dawson, pp. 103-175 B. (78-79).

Vocabulary of the Haida Indians, by G. M. Dawson, pp. 175-189 B. (78-79).

List of marine invertebrata from, by J. F. Whiteaves, pp. 190-205 B. (78-79).

Notes on Crustacea from, by S. J. Smith, pp. 206-218 B. (78-79).

List of plants from, by J. Macoun, pp. 219-222 B. (78-79).

Meteorological observations, pp. 224-232 B. (78-79).

Notes on latitude and longitude observations, by Messrs. Dawson and Bovey, pp. 233-239 B. (78-79).

PART II.

SPECIAL EXAMINATIONS.

Ores, rocks, minerals or fossils that have been subjected to assay, analysis, microscopical examination or scientifically described, are here specially referred to.

NOTE.—It will be understood from the remarks made in the preface, that in order to obtain references to all the published information relative to any particular subject, it may be necessary to consult also the Indexes of the several Annual Reports from 1885 to date; and that in regard to fossils the present index does not include the Special Palæontological publications.

- Actinolite from St. Francis, Beauce, analysis of, (1863) p. 466.
Seymour ore bed, Madoc, composition of, (73-74) p. 202.
- Actinoliteschists, felspathic, from Eastern Townships of Que., microscopic structure of, (80-82) pp. 14-18 A.
- Albertite, table of comparative analyses with coals and asphalt, and specific gravities, (76-77) pp. 396-397.
- Albite crystals from Templeton, partial analysis of, (77-78) p. 30 G.
- Altered diabase from Potton Tp., Que., from lot 14, R. VI., and lots 12 & 24, R.X., and from Adstock Mt., Microscopic structure of, (80-82) pp. 12-13 A.
- Alunogen from Scotia mine, Springhill, N.S., analysis of, (78-79) p. 8 H.
- Analcite from Montreal, analysis of, (77-78) p. 45 G.
- Andesine from Château Richer and Lachute, analyses of, (1863) p. 478.
- Ankerite from Londonderry, N.S., analysis of, (72-73) p. 27., and (73-74), p. 220.
- Anorthite from Hole in the Wall, Tudor Tp., Ont., analysis of, (74-75) p. 310.
Yamaska Mountain, analysis of, (1863) p. 479.
- Anthomyia Burgessii*, Scudder, description of from Tertiary beds, Quesnel, B.C. (75-76) p. 274.
- Anthomyia inanimata*, Scudder, description of from Tertiary of Quesnel, B.C. (75-76) p. 273.
- Anthracite coal from Cascade River, Bow River Pass, analysis of, (82-84) p. 41 M.
Little Lepreau, N.B., analysis of, (76-77) p. 468.
Queen Charlotte Islands, analysis of, (76-77) p. 120.
Hudson Bay, near Whale River, analysis of, (75-76) p. 423.
- Antimonial gray copper ore, from Empire mine, Madoc, assay for gold and silver, (66-69) E. p.169, F. p. 188.
- Apatite from Doctor Pit, Templeton Tp., Que. analysis of, (77-78) pp. 8-10 H.
Grant mine, Buckingham, analysis of, (77-78) pp. 3-4, 7, 10 H.
Loughborough Tp., lot 10, R. X., Ont., analysis of, (77-78) pp. 6 & 10 H.
North Burgess Tp., Ont., analysis of, (1863) p. 761. and (77-78) pp. 4 & 10 H.
Richie mine, analysis of, (77-78) pp. 5 & 10 H.
Storrington Tp., Ont., analysis of, (77-78) pp. 3 & 10 H.
Watt's mine, Portland Tp., analysis of (77-78) pp 6 & 10 H.
- Apatite fluor-apatite, North Burgess Tp., Ont., analysis of, (63-66) p. 203.
- Aphenogaster longeva*, Scudder, description of Tertiary insect from Quesnel, (75-76) p. 267.
- Aphrodite from Grenville, Que., analysis of, (1863) p. 473.
- Archaster Dawsoni*, Verrill, description of, from Dixon Entrance, Q.C.Is., (78-79) p. 194 B.
- Argillites from Lower Silurian of Quebec, analysis of, (1863) p. 600.
- Argillite from Westbury Tp., Que., analysis of, (1863) p. 617.
- Ash from lignite of La Roche Percée, Souris River, N.W.T., analysis of, (79-80) pp. 6-7 H.
- Astarte cardinioides*, Whiteaves, description and figure (73-74) p. 267.
- Astarte Vancouverensis*, Whiteaves, description and figure, (73-74) p. 267.
- Augite from Montreal Mt., Que., analysis of, (1863) p. 468.
- Aventurine felspar from Chatham Tp., Que., analysis of, (1863) p. 475.
- Banded limestone, Lanark Tp., Ont., general description and analysis of, (74-75) p. 141.

- Bituminous coal from Black River, Cumberland Co., N.S. analysis of, (78-79) pp. 11-12 H. Dernier estate, Upper Salmon River, Albert Co., N.B., analysis of, (79-80) p. 8 H.
- Bituminous shales from Cape Smith, Maple Cape, Lake Huron and Gloucester, Ont., and Ste. Anne de Montmorency, Que., analyses of, (1863) p. 622.
- Bituminous shales in Hamilton formation from Bosanquet, Ont., analysis of, (1863) p. 627.
- Bog iron ores, analyses, comparative table of, (73-74), p. 237.
- Bastard Tp., lot 20, R. II, analysis of, (73-74) p. 237.
- Cote St. Charles and Petite Cote, Vaudreuil, Que., analyses of, (73-74) p. 237.
- Upper Rocky Point, Eardley, analysis of, (73-74) p. 237.
- L'Islet Forge, Que. analysis of, (73-74) p. 236.
- St. Maurice Forges, Que., analyses of, (73-74) p. 237.
- Thurlow Tp., Ont., lot 16, R. IX., analysis of, (78-79) p. 15 H.
- Gilliss's property, Vaudreuil Seig., Que., analysis of, (73-74) p. 236.
- Bolitina sepulta*, Scudder, description of species from Quesnel, B.C. (75-76) p. 271.
- Brachypeza abita*, Scudder, description of, from beds at Quesnel, B.C. (75-76) p. 271.
- Brachypeza procera*, Scudder, description of, from Tertiary of Quesnel, B. C., (75-76) p. 272.
- Building stones from Deschambault, Que., France, Ohio and Montreal, examined for porosity and density (63-66) p. 284.
- Buprestis saxigena*, Scudder, description of, from Tertiary of Nicola River (77-78) p. 180 B.
- Buprestis sepulta*, Scudder, description of, from Tertiary of Nicola River (77-78) p. 180 B.
- Buprestis tertiaria*, Scudder, description of, from Tertiary of Nicola River, B.C. (77-78) p. 179 B.
- Bytownite from Ottawa, Ont. analysis of, (1863) p. 479.
- Cœlidia Columbiana*, Scudder, description of, from Tertiary of Similkameen, B.C. (77-78) p. 184 B.
- Calypptites antediluvianum*, Scudder, description of fossil insect, from Quesnel, B.C. (75-76) p. 270.
- Cannel coal, from Little Glace Bay, C.B., analysis of, (74-75) p. 221.
- Cement from dolomite of Oneida N.Y and Paris, Ont., analysis of, (1863) p. 807.
- Cement made from Nepean magnesian limestone, analysis of, (1863) p. 806.
- Cement stone from Quebec, analysis of, (1863) p. 805.
- Cement made at Thorold, Ont., analysis and tests of, (1863) p. 806.
- Cercopis Selwyni*, Scudder, description of, from Tertiary of Nine-mile Creek, B.C. (77-78) p. 183 B.
- Cercyon terrigena*, Scudder, description of, from Tertiary of Nicola River, (77-78) p. 178 B.
- Chalcocite from Rocky Mountains, assay of for gold and silver, (80-82) p. 15 H.
- Chlorite from apatite mines of Templeton, Que. analysis of, (77-78) p. 34 G.
- Portage Lake, Mich., upper series, analysis of, (63-66) pp. 150-151.
- Chlorite slate or schist from Pottou Tp., Que., partial analysis of, (1863) p. 607.
- Chlorite mineral, Delessite, from Pewabic Lode, Mich., analysis of, (63-66) p. 154.
- Chloritoid from Leeds Tp., Que., analysis of, (1863) p. 498.
- Chrome-garnet from Orford Tp., Que., analysis of, (1863) p. 497.
- Chromic iron ores, from Bolton Tp., and Lake Memphremagog, Que., analyses of, (1863) p. 504.
- Chrysotile from Eozoon rock, Petite Nation, analysis of, (63-66) p. 205.
- Clay from London, Ont., analysis of, (1863) p. 641.
- Niagara Tp., Ont., analysis of, (1863) p. 641.
- Rigaud, Que., banks of Rivière à la Graissee, analysis of, (1863) p. 641.
- Clay iron ores from Edmonton, assay of, (73-74) p. 64.
- Clay iron-stone from Belly River, Alta., Coal Banks and vicinity, analyses of, (80-82) p. 11 H. and (82-84), pp. 168-169 C.
- Bow River, Alta., analyses of, (80-82) p. 10 H., and (82-84), p. 168 C.
- Dirt Hills, N.W.T., analysis of, (73-74) p. 241.
- Great Valley, 49th parallel, analysis of, (73-74), p. 241., and (79-80), p. 48 A.
- Kananaskis River, Alta., analyses of, (80-82), p. 10 H. and (82-84), p. 168 C.
- Mill Creek, Alta., analysis of, (80-82) p. 11 H., and (82-84) p. 169 C.
- Smoky River, N.W.T., analysis of, (79-80) p. 16 H.
- Souris River and 345-mile Valley, 49th parallel, analyses of, (73-74) p. 241., and (79-80), p. 48 A.
- White Mud River, south of Ft. Pelly, assay of, (75-76) p. 431.
- Coal, anthracite, from Cascade River, Bow River Pass, analysis of, (82-84) p. 41 M.
- Little Lepreau, N.B., analysis of, (76-77) p. 468.
- Queen Charlotte Islands, analysis of, (76-77) p. 120.
- Skidegate, Q. C. Is., Nicholson Creek and tunnel, analysis of, (72-73) p. 81.
- Hudson Bay, Long Island near Great Whale River, analysis of, (75-76) p. 423.

- Coal, bituminous, from Acadia colliery, N.S., Stellar seam, analysis of, (66-69) E. p. 377, F. p. 418.
- Acadia colliery, Acadia seam, analysis of, (66-69) E. p. 381, F. p. 423.
- Albion mines, N.S., Main seam, analysis and assay of, (66-69) E. p. 371, F. p. 411.
- Ford Pit seam, analysis of, (66-69) E. p. 372, F. p. 413.
- Deep seam, analysis of, (66-69) E. p. 373, F. p. 415.
- Baynes Sound coal mine, Richardson seam, analysis of, (76-77) p. 468.
- Black River, Cumberland Co., N.S., analysis of (78-79) pp. 11-12 H.
- Bridgeport mines, N.S., analysis of, (72-73) p. 252.
- Bridgeport Basin, Carroll seam, analysis of, (74-75) p. 193.
- Broad Cove, C.B., analysis of, (73-74) pp. 188-191.
- Browns River, Comox, B. C., analysis of, (72-73) p. 77.
- Chilliwack River, B.C., analysis of, (73-74) p. 99.
- Coal Creek, Bow River, analyses and calorific power of, (82-84) pp. 32-33 M.
- Coldwater River, B.C., upper seam Coal Gully, analysis of, (77-78) p. 125 B.
- Collins or Little Bras d'Or mine, analysis of, (74-75), p. 241.
- Comox coal-field, B.C., analysis of, (71-72) p. 99.
- Union mine, analysis of, (72-73) pp. 76 & 77.
- Browns River, analysis of, (72-73) p. 77.
- Trent River, analysis of, (72-73) p. 78.
- Drummond colliery, N.S., analyses of, (66-69), E. pp. 382, 386, F. pp. 424, 428.
- Edwards' pit, Sydney, C.B., Indian Cove seam, analysis of, (74-75) p. 240.
- Fraser mine, Pictou, N.S., Foster seam, analysis of, (66-69) E. p. 392, F. p. 435.
- Gardiner mine, C.B., Carroll seam, analysis of, (72-73) p. 272.
- George Brook, C.B., fragments from limestone, analysis of (75-76) p. 406.
- Gillis's farm, McAdam Lake, C.B., analysis of, (76-77) pp. 454, 470.
- International mine, C.B., Harbour seam, analysis of, (74-75) p. 221.
- Inverness coal-field, Broad Cove, analysis of, (73-74) pp. 188-191.
- Little River, Richmond Co., N.S., analysis of, (79-80) p. 119 F.
- Loch Lomond, C.B., analysis of, (76-77) p. 470.
- Marsh colliery, Pictou, N.S., Geo. MacKay seam, analysis of, (66-69) E. p. 390, F. p. 433.
- McAdams Lake, C.B., Gillis farm, analysis of, (76-77) pp. 454, 470.
- McKenzie pit, C.B., fossil trees from sandstone, analysis of, (75-76) p. 411.
- Mill Creek, Alta., analyses and calorific power of, (82-84) p. 40 M.
- Coal, bituminous—*Cont.*
- Montreal and Pictou colliery, N.S., M. and P. seam, analysis of, (66-69) E. p. 387, F. p. 430.
- Nanaimo, B.C., analysis of, (71-72) p. 99.
- Newcastle Island, (72-73) p. 78., table of analysis of, (76-77) face p. 470.
- Wellington mine, analyses and calorific power of, (82-84) pp. 37-38 M.
- Nicola River, B.C., analysis of, (71-72) p. 66 and (76-77) p. 465.
- Nicola Valley, B.C., analysis of, (76-77), p. 127.
- North Thompson River, B.C., analysis of, (76-77) p. 466.
- Nova Scotia colliery, N.S., Acadia seam, analysis of, (66-69) E. p. 386, F. p. 429.
- Old Man River, Alta., North and Middle Forks, analyses and calorific power of, (82-84) pp. 33-36 M.
- Pictou, coal-fields N.S., Acadia seam : Acadia colliery, analysis of, (66-69) E. p. 381, F. p. 423.
- Drummond colliery, analysis of, (66-69) E. pp. 382-386, F. pp. 424-428.
- Nova Scotia colliery, analysis of, (66-69) E. p. 386, F. p. 429.
- Pictou, coal-fields N.S., Lawson seam and Lawson slope, analysis of, (66-69) E. pp. 391-392, F. p. 434.
- McBean slope, 8-ft. seam, analysis of, (66-69), E. p. 389, F. p. 431.
- Richardson seam, Pit at the Crown Pottery, analysis of (66-69), E. p. 393, F. p. 435.
- Peace River, Cañon of, at Mountain of Rocks, analysis of, (75-76) p. 6. (79-80) p. 119 B., and in table (76-77) face p. 470.
- Pine River, Peace River, analysis and calorific power of, (82-84), p. 39 M.
- Port Hood, N.S., analysis of, (76-77) p. 469.
- Reserve mine, C.B., Phelan seam, analysis of, (72-73) p. 266.
- Salmon River, C.B., analysis of, (76-77), p. 454.
- Seacoal Bay, Richmond Co., N.S., analysis of, (79-80), p. 121 F.
- Skeena River, B.C., from seams at nine and twenty miles above Forks, analyses of, (78-79) pp. 12-13 H.
- Springhill coal mines, N.S., Main or Black seam, analysis of, (66-69), E. p. 444, F. p. 497.
- Styles mine, Cumberland Co., N.S., analysis of, (74-75) p. 13.
- Sydney coal-field, N.S. Sydney Main seam, analysis of, (72-73) p. 243., seams worked in, table of analysis of, (72-73) face p. 290.
- Sydney Harbour, N.S., Fraser seam, analysis of, (74-75), p. 193.
- Suquash River, B. C., analysis of, (72-73) p. 78.
- Tracy mine, Mira Bay, C.B., analysis of, (74-75) p. 189.
- Trent River, Comox, B.C., analysis of, (72-73) p. 78.

Coal, bituminous—*Cont.*

- Upper Belly River, analyses and calorific power of, (82-84) p. 36-37 M.
- Upper Salmon River, N. B., Dernier estate, analysis of, (79-80), p. 8 H.
- Watsonkwa River, B.C., analysis of, (78-79) p. 14 H., and (79-80) p. 105 B.
- Wellington mine, Nanaimo, B. C., analyses and calorific power of, (82-84) pp. 37-38 M.
- Union mine Comox, B.C., analysis of, (72-73) pp. 76-77.
- Vancouver Island, averages of analyses of, (72-73) p. 79.
- Coal, lignitic, from Belly River, Alta., Coal Banks seam, analysis of, (80-82), p. 14 B. below Little Bow River, analyses and calorific power of, (82-84) p. 27 M.
- Highwood River, Alta., analyses and calorific power of, (82-84) pp. 27-28 M.
- Indian Farm Creek, Alta., Government Farm, analysis of, (78-79) p. 12 H., and (80-82), p. 18 B.
- North Pembina River at C.P.R. line, analysis of, (79-80) p. 135 B.
- North Saskatchewan River, Rocky Mountain House seam, Nos. 1 and 5, analyses of, (73-74), pp. 63 & 64.
- St. Mary River, Alta., seven miles above mouth, analysis and calorific power of, (82-84) p. 31 M.
- Coal, lignite, from Athabasca River, five miles above Fort Assiniboine, upper seam, analysis and calorific power of, (82-84) p. 24 M.
- Fifty-five miles above Fort Assiniboine, analysis of, (82-84) p. 24 M.
- Belly River, Alta., analyses of (76-77) tables face p. 472 and (77-78) p. 49 G.
- Bow River, Blackfoot Crossing, lowerseam, analysis of, (79-80) p. 12 H. and analysis and calorific power of, (82-84) p. 20 M.
- Bow River, outcrop of Coal Banks seam, analysis of, (80-82) p. 14 B.
- South side, four miles below Blackfoot Crossing, analysis of, (82-84) p. 21 M.
- Grassy Island, main seam, analyses and calorific power of, (80-82) p. 14 B, and (82-85) p. 19 M.
- Horse-shoe Bend, seam at, analysis of, (80-82) p. 15 B, and (82-84) p. 22 M.
- Blackfoot Crossing Bow River analysis of, (79-80) p. 12 H, lower seam, analysis and calorific power of (82-84) p. 20 M.
- Crowfoot Crossing, Bow River, analyses of, (80-82) p. 17 B.
- Crowfoot Creek, Alta., analyses of, (79-80) pp. 11-12 H, (80-82) pp. 16-17 B and (82-84) p. 22 M.
- Dirt Hills, Assa., analysis of, (73-74) pp. 90-93.
- Edmonton, Alta., banks of Saskatchewan, analysis of, (82-84) pp. 14-15 M.
- Great Valley, International Boundary, Assa. table of analyses of, (76-77) face p. 472., analyses of, (79-80) pp. 44-45 A.

Coal, lignite—*Cont.*

- Grassy Island, Bow River, main seam, analyses and calorific power of, (80-82) p. 14 B, and (82-84) p. 19 M.
- Hat Creek, B.C., analyses of (77-78) p. 121 B, 47-48 G.
- Horse-shoe Bend, Bow River, analyses of, (80-82) p. 15 B and (82-84) p. 22 M.
- Kohasganko Stream, B.C., analysis of, (77-78) p. 48 G.
- Medicine Hat, banks of S. Saskatchewan ten miles above, analysis of, (82-84) pp. 12-13 M.
- Milk River Ridge, the Coal Banks seam analysis and calorific power of, (82-84) p. 25 M.
- Moose River, analysis of, (75-76) p. 422.
- Nicola River, B.C., near Coldwater River, analysis of, (77-78), p. 48 G.
- North Saanich, B.C., analysis of, (71-72) p. 99.
- North Saskatchewan, the big seam above Edmonton, analysis of, (73-74) p. 63, (79-80) p. 135 B, and (82-84) p. 13 M, below Edmonton analysis and calorific power of, (82-84) pp. 14-15 M.
- Pincher Creek, Alta., south of, analysis of, (78-79) 612 B.
- Pine River, Peace River, near Lower Forks and Coal Brook, analyses of, (79-80) pp. 13-14 H and (82-84) p. 26 M.
- Porcupine Creek, International Boundary, analyses of, (77-77) table face p. 472 and (79-80) p. 45 A.
- Red Deer River, Alta., mouth of Arrowwood River and two miles below, analyses of, (82-84) pp. 15-16 M, nine and thirteen miles above Hunter Hill, analyses and calorific power of, (82-84) pp. 17-18 M.
- Sander River, Man., analysis of, (74-75) p. 69.
- Seattle U.S., analysis of, (76-77) p. 125.
- Smoky River, analyses of (79-80) pp. 9-10 H, and (82-84) p. 23 M.
- Souris River, Assa., from bore-hole, analysis of, (79-80) pp. 8-9 H.
- Roche Percée, Sutherlands mine, analysis of, (82-84) p. 11 M.
- Short Creek, analysis of, (79-80) p. 9 H.
- Souris Valley, analyses of, (79-80) pp. 13-44 A.
- South Saskatchewan River, ten miles above Medicine Hat, analyses and calorific power of, (82-84) pp. 12-13 M.
- Upper Nechaco River, B.C., analysis of, (76-77) p. 467.
- Wood Mountain, Assa., analysis of, (73-74) pp. 90-93.
- Conchocele cretacea*, Whiteaves, description and figure, (73-74) p. 266.
- Conchoidal lignite from near Blackfoot Crossing, Bow River, analysis, (82-84) p. 20 M.
- Copper glance from Crow Point, C.B., assay of, (76-77) p. 450.
- Spar Island, Lake Superior, assay for silver, (78-79), p. 19 H.

- Copper ore, antimonial, from Empire mine, Madoc, Ont., assay for gold and silver, (66-69) E. p. 169, F. p. 188.
- Copper, arsenical ores of, from Michipicoten Island, analyses of, (1863) p. 506.
- Copper ore from Acton Vale, Que., analyses of, (1863) p. 717.
- Coxheath Copper mine, C.B., assays of, (82-84) p. 96 H.
- Echo Lake, Algoma, analysis of, (78-79) p. 16 H.
- Ely Township, Shefford, Que., assay of, (79-80) p. 17 H.
- Howe Sound, B.C., assay of, (75-76), p. 432.
- Polson Lake, N.S., partial analysis of, (76-77) p. 476.
- Shebandowan Lake, assay of (72-73) p. 95.
- Skincuttle Inlet, Q. C. Is., Pooles Shaft, analysis of, (78-79) p. 16 H.
- Spar Island, Lake Superior, analysis of, (78-79) p. 16 H.
- Spences Bridge, N. Thompson River, B.C., assay of, (75-76) p. 5.
- Suffield mine, Que., partly roasted, assay of, (76-77) p. 481.
- Near Whycocomagh, Inverness, C.B., assay of, (79-80) p. 17 H.
- Copper-pyrites and copper ore from Rocky Mountains, assays of, (80-82) p. 15 H.
- Copper-pyrites from Sherbrooke, Que., assay for silver, (77-78) p. 52 G.
- Spanish River, Ont., assay for silver, (79-80) p. 19 H.
- Victoria Co., N.S., assay of, (82-84) p. 3 MM.
- Coprolites from Allumette Islands and Hawkesbury, Ont., and Rivière Ouelle, analyses of, (1863) p. 461.
- Rivière Ouelle, Que., analysis of, (76-77) p. 434.
- Coracite from Mamainse, Lake Superior, analysis of, (1863) p. 504.
- Cryptohypnus terrestris*, Scudder, description of, from Tertiary of Nicola River, (77-78) p. 180 B.
- Crystalline limestone, Mazinaw Lake, Barrie Tp., O., analysis of, (72-73) p. 154.
- Cycadeocarpus*, (*Dioonites*) *Columbianus*, Dawson description and plate of, (72-73) p. 69.
- Cyanite from N. Thompson River, B.C., analysis of, (78-79) p. 1 H.
- Delessite from rock below Pewabic Lode, Mich., analysis of, (63-66) p. 154.
- Diabase, altered, from Potton and Adstock townships, Que., microscopic structure of, (80-82) pp. 12-13 A.
- Diallage rocks of Orford and Ham townships, Que., analyses of, (1863) p. 469.
- Diastylopsis*, nov gen., description of, by S. I. Smith, (78-79) p. 215 B.
- Diastylopsis Dawsoni*, Smith, description of, from Dixon Entrance, Q.C.Is., (78-79) pp. 215-219 B.
- Diopside from High Falls, Madawaska, analysis of, (1863) p. 467.
- Diorite of Acton Township, Que., analysis of, stratified, (1863) p. 604.
- Adstock Mountain, Que., microscopic structure of, (80-82) pp. 13-14 A.
- Brompton Lake and St. Francis, Beauce, analysis of, (1863) p. 603.
- Diorite dykes of Mount Royal, Montreal, analyses of, (77-78) pp. 42-46 G.
- Dolerite dykes of different ages from Grenville, Que., analyses of, (1863) p. 653.
- Dolomite from Cobocok, Ont., analysis of, (82-84) pp. 1-2 MM.
- Dundas and Grimsby, Ont., analyses of, (76-77), pp. 486-487.
- Granby, Que., analysis of, (1863), p. 614.
- Grenville, Loughborough, Sheffield, Madoc and Mazinaw Lake, analyses of, (1863), p. 593.
- Island of Orleans, analysis of, (1863) p. 613.
- Lanark, Ont., analysis of, (74-75), p. 141.
- Little Metis, Que., analysis of, (76-77) p. 487.
- Montreal, St. Lawrence toll-gate, analysis of, (1863) pp. 619-620.
- Nepean Tp., Ont., analysis of, (1863) p. 619.
- Oneida, Ont., analysis of, (1863) p. 625.
- Onondaga formation, argillaceous, analyses of, (1863), p. 625.
- Ottawa, Ont.: fossils in Trenton at, analysis of, (1863) p. 457.
- Palmerston Tp., Ont., white crystalline, analysis of, (74-75) p. 132.
- Paris, Ont., analysis of, (1863) p. 625.
- Philipsburg, Que., analysis of, (1863), p. 613.
- Point Lévis, Que., analysis of, (1863), p. 613.
- Rigaud, Que., analysis of, (1863), p. 619.
- Rigaud Tp., Que., analysis of, (74-75), p. 311.
- Rougemont, Que., metamorphosed, analysis of, (1863) p. 635.
- Sutton Tp., Que., analysis of, (1863) p. 613, and (77-78) p. 38 G.
- Dolomitic limestone from Selkirk, Man., examination and analysis of (82-84) p. 1 MM.
- Dysyntribite from Shepard, N.Y., analyses of, (1863), p. 485.
- Enstatite from Norway, description and analysis of, (77-78) p. 14 G.
- Eozoön Canadense*, Dawson.
- Resume of examinations and mode of occurrence of, (63-66) pp. 14-19.
- Epidosite from Grand Matanne River, Que., analysis of, (1863) p. 497.
- Equisetum Similkamense*, Dawson, description of, from Tertiary of Similkameen River, B.C., (77-78) p. 187 B.
- Fasciolaria nodulosa*, Whiteaves, description and fig. of. (73-74) p. 268.

- Felspar from Fournier mine, analysis of, (73-74) p. 198.
 Montarville, intrusive rocks of, reference to analysis of, error in, noted, (1863) p. 666.
 Georgian Bay, Partridge Bay, islands in, analysis of, (76-77) p. 197.
- Felsite from Itasyouco Fall, B.C., microscopic description of, (76-77), p. 66.
 Watson Brook, C.B., analysis of, (75-76) p. 424.
- Felspathic actinolite schist, from Bolton Tp., Que., lot 28, R. V., microscopic structure of, (80-82) p. 18 A.
 Pinnacle Mountain, East St. Armand, Que., microscopic structure of, (80-82), pp. 14-15 A.
 Stukely Tp., Que., lot 6, R. VII., microscopic structure of, (80-82) pp. 17-18 A.
 Sutton Tp., Que., lot 1, R. II., microscopic structure of, (80-82) p. 16 A.
- Felspathic hornblende schist from top of Bear Mt., Potton Tp., Que., microscopic structure of, (80-82) p. 16 A.
 Bolton Tp., Que., lot 3, R. XI., microscopic structure of, (80-82) p. 18 A.
- Felspathic sandstone from Eastern Townships, Que., (80-82), pp. 22-23 A.
- Formica arcana*, Scudder, description of fossil insect from Quesnel, B.C., (75-76) p. 266.
- Gabbro from Garthby Tp., Wolfe, Que., near Lake Colombe, microscopic structure of, (80-82) p. 12 A.
- Galena from Arctic Circle claim, Omenica, B.C., assay of, (78-79) p. 24 H.
 Bachewana Bay, Lake Superior, assay of, (76-77) p. 479.
 Boulder Creek, Omenica, B.C., analysis of Arctic Circle and Black Warrior veins, (79-80) p. 111 B.
 Brown's Silver mine, Gros Cap, Ont., assay of, (77-78) p. 51 G.
 Cape Breton, assay of samples from, (76-77) p. 482.
 Cape Breton Co., N.S., between Loch Lomond and Mira, assay of, (80-82) p. 13 H.
 Cherry Creek, B. C., north-fork, assay of (77-78) pp. 161-162.
 Duncan mine, Thunder Bay, vicinity of, assay of, (80-82) p. 14 H.
 Elm-tree River, Gloucester Co., N.B., assay of, (80-82) p. 13 H.
 Fitzroy Harbour, Ont., assay of, (80-82) p. 13 H.
 Fitzroy Tp., Carlton Co., Ont., assay of, (79-80) p. 19 H.
 Lake Temiscaming, assay of, (77-78) p. 52 G.
 Little Whale River, N.E.T., assay of, (76-77) p. 480.
 Musquash Harbour, N.B., assay of, (77-78) p. 52 G.
 Nigadoo Silver mine, Gloucester Co., N.B., assay of, (80-82), p. 13 H.
 Pie Island, L. Superior, assay of, (80-82) p. 14 H.
- Galena—*Cont.*
 Portland Tp., Ottawa Co., assay for gold and silver, (82-84) p. 6 MM.
 Richmond Gulf, Hudson Bay, assay of, (77-78) p. 52 G.
 Rocky Mountains, assay for gold and silver, (80-82) p. 15 H.
 Sterling mine, Cowichen, Vancouver Island, B.C., assays for gold and silver, (79-80) p. 20 H.
 Victoria mine, Garden River, Ont., assay of, (76-77) p. 480, and (77-78) p. 51 G.
 York Co., N.B., northern part, assay of, (78-79) p. 18 H.
- Galenite from Wanamakei Hammond River, N.B., assay of, (78-79) p. 18 H.
- Gallerucella picea*, Scudder, description of, from Tertiary of Nine Mile Creek, B.C., (77-78) p. 181 B.
- Garnet from Lake Simon, Rouge River, Que., analysis of, (1863) p. 496.
 Orford Tp., Que., analysis of, (1863) p. 496.
- Garnet rock, white, from St. Francis, Que., analysis of, (1863) p. 496.
- Gieseckite from Diana, Lewis Co., N.Y., analysis of, (1863) p. 483.
- Glauconite from Calcair Grösier, "greensand," analysis of by Berthier, (63-66) p. 232.
 Kent, England, analysis of by E. Turner, (63-66) p. 232.
 Point Levis, Orleans Island, Que., and Red Bird Minn., analyses of, (1863) pp. 487-488.
 Red Bird Minn., from "greensand," analysis of (63-66) p. 232.
- Gneiss from Island in Lac Noir, Coleraine Tp., Que., microscopic structure of, (80-82) p. 19 A.
- Gold from St. Francis, Beauce, and Rivière du Loup, Que., assays of, (1863) p. 520.
- Gold-bearing pyrites from Gillen mine, Marmora, Ont., assay of, (71-72) p. 137.
- Gold-bearing quartz from Aubin Delisle, and Aubert Gallion, Que., assays of, (63-66) p. 84.
- Enterprise Gold and Silver Mining Co. of B.C., assay of, (78-79) p. 23 H.
 Lake of the Woods, 12 miles south-east of Rat Portage, assay of, (78-79) p. 23 H.
 Linère, Que., assay of, (63-66) p. 84.
 Vaudreuil Seig., Que., assay of, (63-66), p. 83.
- Gold ores from Cariboo, B.C., assay of, (77-78) p. 49 G.
 Conkling Gulch, Cariboo, B. C., vicinity of, assay of, (75-76) p. 429.
 Lake of the Woods, assays of samples from various claims, (82-84) pp. 8-15 MM.
 Heron Cove, Lake Superior, assay of (72-73) p. 111.
 Lakes Superior and Huron, assays of (76-77) pp. 479-481.
 Madoc, Empire mine, assay of, (66-69) E. p. 169, F. p. 188.

Gold ores—*Cont.*

- Madoc, Marmora, Belmont, and Lake Tps., assays of, (66-69) E. p. 170, F. p. 189.
- Marmora and Levant Tps., Ont., mines in, assays of, (71-72) p. 141.
- Van Winkle mine, Cariboo, B.C., assay of, (75-76) p. 429.
- Gozzan, or decomposed specular ore from Pictou County, N.S., analysis of, (66-69) E. p. 440, F. p. 492.
- Grammatodon Itasyoucoensis*, Whiteaves, description of, from Itasyouco River, B.C., (76-77), p. 153.
- Granite, porphyry, of Table-top Mt., lithological description of, (82-84) p. 21 F.
- Graphite from Buckingham Tp., lots 22, 23, 28, R. VI., analyses of, (75-76) pp. 426-428.
- Buckingham Tp., Que., lot 20, R. VIII., analyses of, (75-76) p. 427.
- Buckingham, Que., analyses of, (76-77) p. 492.
- Canadian specimens sent to Paris 1862, analyses of by M. Cloez, (63-66) p. 220.
- Ticonderoga, N.Y., analyses of, (76-77) p. 506.
- Graphite disseminated from Glendale, C.B., analysis of, (78-79) p. 2 H.
- Split Rock mine, St. John, N.B. analysis of, (78-79) p. 3 H.
- Graphite fibrous, Warrensburg, N.Y., Prof. Chandler's analysis of, (63-66) p. 220.
- Graphite, foliated and columnar vein, from Buckingham, Que., analyses of, (76-77) pp. 500-501.
- Graphite vein, from augmentation of Grenville, Que., analyses of, (70-77) pp. 502-504.
- Ceylon, analysis of, (76-77) pp. 504-506.
- Graphitic shale from French Vale, N.S., analyses of, (79-80) pp. 1-2 H.
- Glendale, C.B., analysis of, (78-79) p. 2 H.
- Grauwacke from Potton, Shipton and Acton Tps. in Eastern Quebec, microscopic structure of, (80-82) pp. 20-23 A.
- Green earth, Pewabic Lode, Mich., accompanying copper, analysis of, (63-66) p. 153.
- Greenstones of Huronian, Lake Superior, analyses of, (1863), p. 595.
- Analyses by J. D. Whitney, (1863), p. 605.
- Gypsum from Port Bevis, C.B., analysis of, (75-76), p. 417.
- Hematite from Amherst Island, near Demoiselle Hill, Magdalen Islands, analysis of, (79-80) p. 15 H.
- Big Pond, Bras d'Or, C.B., analysis of, (74-75) p. 263.
- Bourinot Road, C.B., analysis of, (76-77) p. 449.
- Cook Brook, Londonderry, N.S., specular ores, analysis of, (73-74) p. 224.
- Dalhousie iron mine, Ont., partial analysis of, (73-74) p. 225.
- East Bay, C.B., analysis of, (76-77) p. 473.

Hematite—*Cont.*

- East River, Pictou, N.S., red, analysis of, (73-74), p. 226.
- Elmsley, Ont., lot 30, R. VI., analysis of, (73-74), p. 225.
- Gros Cap, Lake Superior, analysis of, (66-69) E. p. 260, F. p. 287.
- Haycock mine, Templeton, analysis of, (73-74) p. 226.
- Hudson area (No. 45) Pictou, N.S., analysis of, (73-74) p. 223.
- Lake Nipigon, east side and Inner Barn, analyses of, (73-74) p. 225.
- Loch Lomond, C.B., vicinity of, analysis of, (80-82) p. 7 H.
- McNab Tp., Ont., analysis of, (1863) p. 678, and (66-69) E. p. 260, F. p. 287.
- Moose River, assay of, (75-76) p. 431.
- Londonderry, Peter Totten lot, Acadia mines, analysis of, (73-74) p. 224.
- Pictou, N.S., area 108, results of assay, (73-74) p. 224.
- Pictou, N.S., specular ore, East River, analysis of, (73-74) p. 226.
- Pictou, N.S., specular ores from area 47, assay of, (73-74) p. 225.
- Sharbot Lake, Ont., metallic iron contained in, (82-84) p. 17 MM.
- Webster's claim, area No. 101, Pictou, N.S., analysis of, (73-74) p. 223.
- Whykokomagh mine, C.B., partial analysis of, (73-74) p. 225.
- Heteromyza senilis*, Scudder, description of, from Tertiary beds of Quesnel, B.C., (75-76) p. 275.
- Hisingerite (?) from Elizabethtown, Ont., analysis of, (74-75) p. 315.
- Hornblende, varieties raphilite, pargasite and actinolite, analyses of, (1863) p. 466.
- Hornblende from Edenville, N.Y., analysis of, (77-78) p. 23 G.
- Highfalls, Madawaska, Ont., analysis of, (77-78) p. 23 G.
- McVeigh lot, Bathurst, analysis of, (73-74) p. 201.
- Foley Tp. assay of (76-77) p. 200.
- Hornblende granite from Orford Tp., lot 3, R. XV., microscopic structure of, (80-82) p. 10 A.
- Shipton Tp., Que., R. VII., microscopical structure of, (80-82) pp. 8-10 A.
- Hydraulic limestone from Wickham, Que., analysis of, (74-75) p. 311.
- Hygrotrechus Stali*, Scudder, description of, from Tertiary beds of Similkameen, B.C., (77-78) p. 182 B.
- Hypersthene from Château Richer, Que., analysis of, (1863) p. 408.
- Hypoclinia obliterate*, Scudder, description of fossil insect from Quesnel, B.C., (75-76) p. 267.
- Ilmenite from Bay St. Paul, and Château Richer and St. Francis, analyses of, (1863) pp. 501-502.

Ilmenite—Cont.

- Bay St. Paul, Que., analyses of, (73-74) p. 227.
 Bay of Seven Islands, St. Lawrence River, analysis of, (66-69) E. p. 260, F. p. 287.
 Brome and Sutton, Que., partial analyses of, (73-74) p. 228.
 Frontenac, Leeds and Lanark counties, analyses of, (71-72) p. 123.
 St. Jerome and St. Julien, Que., analyses of, (73-74) p. 227.

Indurated clay from Souris City, Man., tests in furnace, in brick making, (80-82) pp. 2-3 H.
 Infusorial earth from Pollet River, N.B., microscopical examination and analysis of, (78-79) pp. 4-6 H.

Pollet River Lake, Kings Co., N.B., analysis and practical test in brick making, (79-80) pp. 3-6 H.

- Iron, pig, from Bay St. Paul furnace, analysis by**
 Riley, (73-74) p. 250.
 Carlton, N.B., analysis of, from ore of Iron Ore Hill, (74-75) p. 104.
 Londonderry Furnaces, N.S., analysis of, (73-74) p. 255.
 St. Maurice Forges, Que., gray pig, analysis of, (73-74) p. 248.
 Analysis of foreign minerals in, (66-69) E. p. 257, F. n. 284.

Iron ores, see also Ilmenite, Magnetite, Magnetic iron ores, Hematite and Limonite.

Iron ore from Acadia mines, N.S., north and south veins, Cumberland Brook, assay of, (72-73) p. 29.

Totten lot, Ross farm, and Martin Brook, analysis of, (72-73) p. 30., and assay of (72-73) p. 29.

Bay of Seven Islands, St. Lawrence, titanic, analysis of, (66-69) E. p. 260, F. p. 287.

Bayne Sound, B.C., analysis of, (72-73) p. 82.

Belmont Tp., Ont., (magnetic), analysis of, (66-69) E. p. 258, F. p. 286.

Big Pond, C.B., analysis of, (75-76) p. 415.

Cooks Brook, Acadia mines, analysis of, (72-73), p. 31.

Christie Lake, or Myer's mine, South Sherbrooke Tp., Ont., analysis of, (72-73) p. 175.

Dalhousie iron mine, Ont., analysis of, (71-72) p. 123.

Edmonton, Alta., clay iron-stones, assay of, (73-74) p. 64.

Gairloch Mt., Middle River, C.B., analysis of, (79-80) p. 14 H.

Halliburton Co., Ont., Lutterworth Tp., analyses of, (78-79) pp. 15-16 H.

Harriet Harbour, Q. C. Is., magnetic, analysis of, (78-79) p. 14 H.

Hull, Que., red and black ore, analysis of, (66-69) E. p. 254, F. p. 281.

Indian Point, C.B., spathic, partial analysis of, (76-77) p. 476.

Iron Ore Hill, Carlton Co., N.B., analysis of, (74-75) p. 104.

Knee Lake, Keewatin, analysis of, (78-79) p. 15 H.

Iron ore—Cont.

Little Pic River, Algoma, assay of, (70-71), p. 348.

Londonderry, N.S., Totten Lot, assay of, (72-73), p. 22.

Madoc, Seymour ore-bed (magnetic), analysis of, (66-69) E. p. 259, F. p. 287.

North Crosby, lot 27, R. IV., Allan's iron ore deposit, analysis of, (74-75) p. 121.

Pickering River, Lake Superior, Ont., magnetic, analysis of, (78-79) p. 15 H.

Quesnel Mouth, B.C., analysis of, (71-72) p. 67.

Schooner Pass, Q. C. Is., B.C., analysis of, (72-73) p. 82.

Shawenegan and Ste. Julienne, Que., titanic, partial analyses of, (76-77) p. 474.

Silver Lake, Lanark, Ont., analysis of, (74-75) p. 116.

South Crosby Tp., Ont., near Mud Lake, (magnetic), analysis of, (66-69) E. p. 257, F. p. 284.

Stewart Pond, Guysborough, N.S., analysis of, (79-80) p. 14 H.

Whykomagh, C.B., analysis of, (75-76) p. 415.

Iron-pyrites from Burgess Tp., Ont., analysis of, (63-66) p. 217.

Dalhousie Tp., assay for gold and silver, (79-80) p. 20 H.

Lake of the Woods, 25 miles south-west of Rat Portage, assay of, (78-79) p. 20 H.

Madoc Tp., Ont., partial analysis of, (79-80) p. 21 H.

Iron sand from Bersemis, Que., analysis of, (66-69), E. p. 268, F. p. 296.

Mingan, Que., analysis of, (66-69) E. p. 269, F. p. 296.

Moisie, Que., analysis of, unwashed ore, (66-69) E. p. 267, F. p. 295; washed ore, (66-69) E. p. 268, F. p. 296.

Iron-stone from Great Valley, 49th parallel, N.W.T., analysis of, (79-80), p. 48 A.

Souris Valley, analysis of, (79-80) p. 48 A.

Jasper from Cape Rouge, Que., analysis of, 1863) p. 628.

Kaolin from Grand Frenier, Que., analysis of, (78-79) p. 7 H.

Kaolinite from Acton Tp., Que., analysis of, (74-75) pp. 314-315.

Labradorite from North Sherbrooke Tp., Ont., analysis of, (74-75) p. 316.

Rawdon, Château Richer and Drummond, analyses of, (1863), p. 479.

Lachnus petrorum, Scudder, description of, from Tertiary beds at Quesnel, B.C., (75-76) p. 279.

Lazulite from Fort Churchill, analysis of, (78-79) p. 2 H.

Lederite from Grenville, Que., analysis of, (1863) p. 503.

Lepton rude, Whiteaves, (Dall) description of, from Virago Sound, Q. C. Is., (78-79) p. 198 B.

- Lievrite from near Ottawa, analysis of, (1863) p. 465.
- Lignite, *see* Coal, lignite.
- Limestone from Alberni Road, Vancouver Is., green mineral in, analysis of, (72-73) p. 83.
- Lake Couchiching, Ont., analysis of, (1863) p. 621.
- Lake Penache, Ont., Huronian, analysis of, (1863) p. 596.
- Lanark Tp., Ont., banded, description and analysis of, (74-75) p. 141.
- McNab Tp., and Pembroke, Ont., analyses of, (76-77) p. 486.
- Marble Mountain, Inverness Co., C.B., analysis of, (77-78) p. 29 F.
- Montreal, altered by intrusion, analyses of, (1863) p. 582.
- Paquette Rapids, Ottawa River, analysis of, (1863) p. 621.
- Peace River, analyses of, (76-77) p. 485.
- Quebec City, analysis of, (1863) p. 805.
- Ste. Rosalie, Que., analysis of, (1863) p. 621.
- Selkirk, Man., analysis of, (82-84) p. 1 MM.
- South Thompson River, ten miles east of Kamloops, B.C., microscopical analysis of, (77-78) p. 80 B.
- Swan River and Thunder Hill, Man., Cretaceous, microscopic examination by Dr. G. M. Dawson, (74-75) pp. 66-67.
- Wickham, Que, hydraulic, analysis of, (74-75) p. 311.
- Limonite from Bastard Tp., Ont., analysis of, (1863) p. 511.
- Brandon Hills, assay for metallic iron, (82-84) p. 17 MM.
- Eardly Tp., Ont., analysis of, (1863) p. 511.
- Londonderry, N.S., Martins Brook and Cumberland Brook, Acadia mines, analysis of, (73-74) pp. 232-233.
- Londonderry, N.S., Ross farm, Acadia mines, analysis of, (73-74) p. 231.
- Pictou, N.S., Cullen's area, No. 105, analysis of, (73-74) p. 234.
- Pictou Co., N.S., Fraser-Saddler area, analysis of, (73-74) p. 233.
- Pictou Co., N.S., near Springville, analysis of, (66-69) E. p. 441, F. p. 493.
- St. Maurice forges, Que., analysis of, (1863) p. 511.
- Thurlow Tp., Ont., lot 16, R. IX., analysis of, (78-79) p. 15 H.
- Vaudreuil Co., Que., analyses of, (1863) p. 511.
- Vaudreuil, Que., Gillis property, and L. Islet Forge, analysis of, (73-74) p. 236.
- Lithotalis*, nov. gen., Scudder, description of, from Tertiary beds of Quesnel, B.C., (75-76) p. 276.
- Loftusia Columbiana*, Dawson, foraminifera from Marble Cañon, B.C., description of, (77-78) p. 88 B.
- Loganite from Eozoan of Burgess Tp., Ont., analysis of, (63-66) p. 232.
- Calumet Falls and North Burgess, Ont., analyses of, (1863) p. 491.
- Lonchaea senescens*, Scudder, description of, from Tertiary beds of Quesnel, B.C., (75-76) p. 277.
- Loxoclast from Hammond, N.Y., analysis of, (1863) p. 475.
- Lucina Richardsonii*, Whiteaves, from Nanaimo River, B.C., description and figure of, (73-74) p. 266.
- Macoma Carlottensis*, Whiteaves, description of, from Virago Sound, Q. C. Is., (78-79) p. 196 B.
- Magnesian limestone from Dudswell, Que., analysis of, (1863) p. 617.
- Cape Dauphin, N.S., analysis of, (73-74) pp. 174-175.
- Madoc, Mazinaw Lake, Sheffield and Grenville, analyses of, (1863) p. 593.
- Magnetite from Sutton and Bolton Tps., Que., analyses of, (1863) pp. 457-458.
- Magnetitic ophiolite from Melbourne Tp., Que., analysis of, (74-75) p. 309.
- Magnetic iron ore from Fitzroy, Carlton Co., Ont., analyses of, (79-80) pp. 15-16 H.
- Harriet Harbour, Q.C. Is., analysis of, (78-79) p. 14 H.
- Knee Lake, Keewatin, analysis of, (78-79), p. 15 H.
- Pickrel River, near Michipicoten, Ont., analysis of, (78-79) p. 15 H.
- See also* Magnetite and Iron ore, magnetic.
- Magnetite from Bagot Tp., Renfrew, lot 13, R. VI., analysis of, (80-82) p. 8 H.
- Bedford Tp., Ont., Glendower mine, Lainesville Iron Co.'s mine, analysis of, (82-84) p. 10 L.
- Belmont Tp., Ont., analysis of, (66-69) E. p. 258, F. p. 286.
- Bristol iron mines, analysis of, (73-74) p. 208.
- Chaffey mine, South Crosby, Ont., analysis of, (73-74) p. 211, and (66-69) E. p. 257, F. p. 285.
- Cherry Bluff, Kamloops, B.C., analysis of, (77-78) p. 46 G.
- Christie Lake mine, Ont., analysis of, (73-74) p. 210.
- Halliburton Co., Ont., Lutterworth Tp., analysis of, (78-79) pp. 15-16 H.
- Hull Tp., Que., analysis of, (1863) p. 674.
- Hull iron mines, analyses of, (73-74) p. 211.
- Inverness Tp., Que., analysis of, (73-74) p. 210.
- Leeds, Que., lot 7, R. V., analysis of, (73-74) p. 209.
- Nictaux, N.S., partial analysis of, (73-74) p. 210.
- North Crosby, Ont., on Allan's location, analysis of, (73-74) p. 211.
- Olden Tp., Frontenac, Ont., lot 17, R. XI., analysis of, (80-82) p. 8 H.
- Texada Is., B.C., partial analysis of, (76-77) p. 475.
- Thunder Bay, analysis of, (80-82) p. 8 H.
- See also* Magnetic iron ore and Iron-ore magnetic.

- Manganese ore from Boulardrie Is., C.B., analysis of, (78-79) p. 17 H.
Cape Breton, analyses of, (80-82) p. 12 H.
Mira Hills, C.B., n-ar Loch Lomond, assays of, (79-80) p. 17 H.
- Manganiferous calcite from Joggins, N.S., Cumberlandland seam, analysis of, (77-78) p. 38 G.
- Manganite from Amherst Island, Magdalen Is., analysis of, (79-80) p. 18 H.
Bachewanung Bay, Lake Superior, analysis of, (1863) p. 751.
- Marl from Pikitigouching River, Nipigon Lake, analysis of, (74-75) p. 312.
- Mica, general description of, with analyses of varieties, (1863) pp. 493-495.
- Micaceous iron ore from Gairloch Mt., Middle River, C.B., analysis of, (79-80) p. 14 H.
Stewart Pond, Guysborough Co., N.S., analysis of, (79-80) p. 14 H.
- Mineral resin from Shaw's mill, Gaspé, analysis of, (1863) p. 791.
York River, Gaspé, analysis of, (1863) p. 792.
- Mineral water from Ancaster, Ont., analysis of, (1863) pp. 533, 547, and (63-66) p. 272.
Baie du Febvre, Que., analysis of, (1863) p. 549.
Belœil, Que., analysis of, (1863) p. 549.
Berthier, Que., analysis of, (1863) p. 548.
Block House mine, C.B., analysis of, (72-73) p. 281.
Caledonia, Ont., analyses of, (1863) pp. 548-549.
Caledonia Springs, analysis of, (63-66) p. 279.
Caxton Tp., Que., analysis of, (1863) p. 548.
Chambly, Que., analysis of, (1863) p. 550, and (63-66) p. 280.
Charlotteville, Ont., analysis of, (1863) p. 537.
East Bay, C.B., analysis of, (76-77) p. 456.
Eastmans Springs, Ont., analysis of, (74-75) pp. 318-319.
Fitzroy Tp., Ont., analysis of, (1863) p. 549.
Goderich, Ont., analysis of, (63-66) p. 272.
Hallowell Tp., Ont., analyses of, (1863) p. 547, and (63-66) p. 272.
Hamilton, analysis of, (1863) p. 538.
Hawkesbury, Ont., partial analysis of, (1863) p. 538.
Joly Tp., Que., analysis of, (1863) p. 550.
Jacques-Cartier River, Que., analysis of, (1863) p. 550.
Kingston, Ont., well at, analysis of, (1863) p. 539.
Lanoraie, Que., analysis of, (1863) p. 548.
MacMaster's mill, Queensville, N.S., analysis of, (79-80) p. 7 H.
Manitoulin Island, analysis of, (63-66) p. 273.
Nicolet Tp., Que., analysis of, (1863) p. 550.
Plantagenet, Ont., analysis of, (1863) p. 548.
St. Catharines, Ont., analyses of, (1863) p. 543, and (63-66) p. 272.
- Mineral water—*Cont.*
Ste. Geneviève, Que., analysis of, (1863) p. 548.
St. Leon, Que., analysis of, (1863) p. 548.
St. Ours, Que., analysis of, (1863) p. 550.
Thames well, Bothwell, Ont., analysis of, (63-66) pp. 273-276.
Tuscarora, Ont., analysis of, (1863) p. 545.
Varenes, Que., analysis of, (1863) p. 549.
Whitby, Ont., analysis of, (1863) p. 547.
- Mirabilite from Fort St. John, Peace River, analysis of, (75-76) p. 421.
- Mispickel from copper mine, Coxheath Hills, C.B., assay for gold and silver, (78-79) p. 17 H.
Grant Settlement, Musquodoboit River, N.S., assay of, for gold and silver, (79-80) p. 18 H.
Mines in Marmora Tp., Ont., assays, (71-72) p. 141.
Marmora (?) assay of, for gold and silver, (79-80) p. 19 H.
Marmora, Can. Consolidated Gold Mining Co.'s mine, assay of, (82-84) p. 12 L.
Musquodoboit, N.S., assay of, for gold and silver, (79-80) p. 18 H.
- Muscovite from Shipton Tp., Que., analysis of, (1863) p. 494.
- Natrolite from dykes of Montreal Mt., analysis of, (74-75) p. 303.
- Nebria paleomelas*, Scudder, description of, from Tertiary of Nicola River, B.C., (77-78) p. 178.
- Nickel-gymnite from Michipicoten Island, Lake Superior, analysis of, (1863) p. 507.
- Nickel arsenical from Wallace mine and Michipicoten Island, analysis of, (1863) p. 506.
- Nickel ore from Michipicoten Island, analysis of, (1863) p. 737.
Wallace Mine, Lake Huron, analysis of, (1863) p. 737.
- Obsidian from near Il-ga-chuz Mts., B.C., microscopical examination of, (76-77) p. 78.
- Ochre from Ste. Anne de Montmorenci, analysis of, (1863) pp. 512-513.
- Oil-coal, from Marsh Brook, Pictou, N.S., analysis of, (66-69) E. pp. 394-395, F. pp. 437-438.
Montreal and Pictou seam, M. and P. Colliery, N.S., analysis of, (66-69) E. p. 388, F. p. 431.
Patrick's mine, Pictou, N.S., analysis of, (66-69) E. p. 394, F. p. 437.
Stellar seam, Acadia mines, N. S., analysis of (66-69) 6 p. 377, F. p. 418.
- Oil shale from Acadia Colliery, N.S., analysis of, (66-69) E. pp. 377-378, F. p. 419.
- Oligoclase from Fournier Mine, Ont., analysis of, (73-74) p. 198.
Mount Johnson, analysis of, (1863) p. 477.
- Olivine from Kamloops, B.C., microscopical description of, (77-78) pp. 41-42 G.

Olivine—*Cont.*

- Montarville, Que., analysis of, (1863) p. 464.
 Ste. Annes, Que., analysis of, (77-78) p. 39 G.
- Olivine rock from Mount Albert, Shickshock Mts., lithological description of, (82-84) p. 20 F.
- Ophiolite from Brompton Lake, Que., conglomerate, analysis of, ('853) p. 610.
 Orford Tp., Que., calcareous, analysis of, (1863) p. 609.
 Roxbury, Vt., magnesian, analysis of, (1863) p. 611.
 Syracuse, N.Y., analysis of, (1863) p. 635.
- Orthoclase from Buckingham, Que., analyses of, (76-77) pp. 511-512.
 Grenville and Argenteuil Co., Que., analyses of, (1863) p. 474.
 Mineral veins of Lake Superior, analysis of, (1863) p. 476.
 Trachyte rocks of Que., Mount Royal and Brome Mt., analyses of, (1863) p. 476.
- Palloptera morticina*, Scudder, description of, from Tertiary beds of Quesnel, B.C., (75-76) p. 278.
- Pargasite from High Falls, Madawaska River, analysis of, (1863) p. 466.
 Paragas, Finland, analysis of, (73-74) p. 202.
- Peat from interglacial deposits of Driftwood Bend, Belly River, analysis of, (82-84) p. 144 C.
 St. Dominique, Que., analysis of, (1863) p. 642.
- Penthretia Similkameena*, Scudder, description of, from Tertiary of Similkameen River, (77-78) pp. 176-177 B.
- Peridotite from Montarville, Que., analysis of, (1863) p. 666.
- Peristerite from Bathurst Tp., Ont., analysis of, (1863) p. 477.
- Perthite, from Burgess Tp., Ont., analysis of, (1863) p. 474.
- Petrosilex from Orford Tp. and St. Henry, Que., analyses of, (1863) p. 599.
- Phlogopite from North Burgess, Ont., analysis of, (1863) p. 495.
- Pholerite from Chaudière River, Que., foot of falls, analysis of, (1863) p. 495.
- Phonolite from Lachine, Que., analysis of, (1863) pp. 661-662.
- Phosphate nodules from R. Ouelle, Que., analysis of, (76-77) p. 434.
- Pimpla sazea*, *P. senecta* and *P. decessa*, fossil insects from Quesnel, B.C., descriptions of by S. H. Scudder, (75-76) pp. 268-269.
- Planophlebia*, nov. gen., description of by S. H. Scudder, (77-78) p. 184 B.
- Planophlebia gigantea*, Scudder, description of, from Tertiary of Similkameen River, B.C., (77-78) p. 185 B.
- Platanus nobilis*, Newberry, description of, quoted, (79-80) pp. 51-52 A.
- Pinna subcancellata*, Whiteaves, description of species, (76-77) p. 153.
- Porphyrite from Itasyouco River, B.C., lithological description of, (76-77) p. 66.
 Si-gut-lat Lake, B.C., description of, (76-77) p. 67.
 South Branch, Ste. Anne River, Que., lithological description of, (82-84) p. 21 F.
 Tahyasco River, B.C., lithological description of, (76-77) p. 67.
- Porphyritic trachyte from Chambly, Que., analysis of, (1863) p. 658.
- Prehnite from Templeton, Que., analysis of, (77-78) p. 34 G.
- Prometopia depilis*, Scudder, description of, from Tertiary of Quesnel, B.C., (75-76) p. 278.
- Pyrallolite from Charlston Lake, Grenville and Canton, N.Y., analyses of, (1863) p. 471.
- Pyrites from Fire-steel Rapid, Mattagami River, assay of, (78-79) p. 21 H.
 Gillen Gold Mine, Marmora, Ont., assay of, (71-72) p. 137.
 Guysborough Co., N.S., copper, arsenic and iron, from Canso road, assay of, (80-82) p. 13 H.
 Londonderry, N.S., analysis of, (74-75) p. 316.
 Marble Island, Hudson Bay, assay of, (78-79) p. 23 H.
 Gold mines in Marmora and Leonard Tps., assays of, (71-72) p. 141.
- Pyritous limestone from Black Whale Harbour, assay of, (78-79) p. 21 H.
- Pyrolusite from Loch Lomond, C.B., analysis of, (80-82) p. 12 H.
- Pyrophyllite from carboniferous conglomerate, Harvey, N.B., analysis of, (72-73) p. 300.
- Pyroschists of Hamilton formation, from Bosanquet Tp., Ont., analysis of, (1863) p. 627.
 Lake Huron, Ste. Anne de Montmorenci, and Gloucester, Ont., analyses of, (1863) p. 622.
- Pyroxene and varieties of, descriptions and analyses of, (1863) pp. 467-468.
 Bathurst Tp., Ont., analysis of, (77-78) p. 23 G.
 Grenville mica mine, aluminous, analysis of, (74-75) p. 302.
 Templeton, Que, crystallography and analysis of, (77-78) pp. 17, 21 G.
- Pyroxenite from North Burgess, analysis of, (1863) p. 492.
- Pyrrhotite from Elizabethtown, Ont., analysis of, (74-75) p. 306.
- Pie Island, L. Superior, nickel and cobalt in, results of assay of, (80-82) p. 15 H.
 St. Stephen, N.B., Thompson's farm, nickel and cobalt in, result of assay of, (80-82) p. 16 H.
 Sutton Tp., Qué., analysis of, (79-80) p. 21 H.
- Quartz from British Columbia, results of assay of, for gold and silver, twelve localities, (76-77) pp. 477-478.

Quartz—*Cont.*

- Cariboo, assays of, for gold and silver, (77-78) p. 49 G.
- Champion Ledge, Omenica, B.C., assay of, (78-79) p. 24 H.
- Charley Lake Road, Parish of Canterbury, N.B., assay of, (79-80) p. 19 H.
- Cherry Creek, B.C., assays for gold and silver, (77-78) p. 50 G.
- Cinnemousun Narrows, B.C., assay of, (77-78) p. 50 G.
- Douglas Portage, B.C., assay of, (78-79) p. 24 H.
- Fort Churchill, assay of, (78-79) pp. 21-22 H.
- Gnarled Island, Q.C. Is., assay for silver, (78-79) p. 24 H.
- Gods and Island Lakes, assays of, (78-79) p. 21 H.
- Jackfish Bay, Lake Superior, assay for gold and silver, (76-77) p. 479.
- Long Island, Hudsons Bay, assay of, (78-Partridge Lake, assay of, (76-77) p. 480.
- Rat Portage, Ont., gold-bearing, from island 12 miles south-east of, assay of, (78-79) p. 23 H.
- Rocky Mountains assays of, (80-82) p. 15 H. and (82-84) pp. 15-16.
- Vaudreuil Seig., Que. assay of, (63-65) p. 83.
- 79), p. 20 H.
- Wakefield, Que., assay for gold and silver, (78-79) p. 19 H.
- Quartz and pyrites from Richmond Gulf, Hudsons Bay, assay of, (78-79) p. 20 H.
- Quartz-free porphyry from Shefford Tp., Que., lot 24, R. III., microscopic structure of, (80-82) p. 10 A.
- Quartz-porphry from Grenville, Que., analysis of, (1863) p. 654.
- Quartz-porphryite from Potton Tp., Que., lot 16, R. X., micro-copic structure of, (80-82) p. 11 A.
- Quartzite from Falcon Lake, near Lake of the Woods, assay of, (78-79) p. 21 H.
- Quartz schist, feldspathic, from Melbourne Tp., Que., lot 6, R. VIII., microscopic structure of, (80-82) p. 23 A.
- Ragging and skimping from Hancock stamp works, assay of, (63-66) p. 163.
- Raphillite from Lanark, Ont., analysis of, (1863) p. 466.
- Rensselarite from Canton, N.Y., analysis of, (1863) p. 470.
- Portage du Fort, analysis of, (76-77) p. 484.
- Retinalite from Grenville, Que., analysis of, (1863), p. 472.
- Sal-ammoniac and native sulphur, from Smoky River, N.W.T., analysis of, (75-76) p. 420.
- Salt from Clearwater River, N.W.T., analysis of, (82-84) p. 18 MM.
- Goderich, boring at, analysis of, (76-77) p. 233.
- Salt brine from Bras d'Or, C.B., Little Narrows, analysis of, (73-74) p. 181.

Salt brine—*Cont.*

- Clinton well, Ont., analysis of, (66-69) E. p. 222, F. p. 245.
- Goderich, Ont., analyses of, (63-66) p. 269, (66-69) E. pp. 221 and 240, F. pp. 243 and 266.
- Kincardine, Ont., analysis of, (66-69) E. p. 222, F. p. 245.
- Lake Winnipegosis, south end, analysis of, (74-75) p. 70.
- Nanaimo, B.C., analysis of, (72-73) p. 82.
- Samarskite from Brassard Tp., Berthier, Que., analysis of, (80-82) p. 1 H.
- Sassafras Selwyni*, Dawson, description of species, from Roche Percée, Souris River, (79-80) p. 53 A.
- Scapolite from Perth, Ont., analysis of, (1863) p. 474.
- Ripon Tp., Que., analysis of, (77-78) p. 32 G.
- Sciomyza revelata*, Scudder, description of, from Tertiary beds of Quesnel, B.C., (75-76) p. 275.
- Semi-anthracite from Cascade River, Bow Pass, analyses and calorific power of, (82-84) pp. 41-42 M.
- Serpentine from Bolton Tp., Que., analysis of, (1863) p. 472, and (74-75) p. 304.
- Burgess Tp., Ont., analysis of, (1863) p. 472.
- Calumet Island, Ottawa River, analysis of, (1863) p. 472.
- Esquimault Harbour, B.C., analysis of, (71-72) p. 100.
- Grenville, Que., analysis of, (1863) p. 472.
- Ham Tp., Que., analysis of, (1863) p. 472.
- Lake Abitibi, island in, analysis of, (72-73) pp. 299-300.
- Melbourne Tp., Que., analysis of, (74-75), p. 304.
- Melbourne Tp., Que., magnesian, analysis of, (74-75) p. 309.
- Melbourne, Que., microscopic structure of, (80-82) p. 19 A.
- Orford Tp., analysis of, (1863) p. 472.
- Pigeon Lake, Montreal River, Ont., analysis of, (76-77) p. 483.
- Rivière des Plantes, Que., Range II., microscopic structure of, (80-82) p. 19 A.
- Shale, carbonaceous, used for carvings, Q.C.I., analysis and physical properties of, (72-73) p. 61.
- Red, from Etchemin River, Que., analysis of, (1863) p. 600.
- Orleans Island, Que., analysis of, (1863) p. 600.
- Soda Creek, B.C., assay of, for gold and silver, (75-76) p. 430.
- Silver ores from Cariboo, B.C., assays of, (77-78) p. 49 G.
- Conklings Gulch, Cariboo, B.C., assay of, (75-76) p. 429.
- Eureka mine, B.C., results of assay of, (73-74) p. 7, and (75-76) p. 5.
- Hatley Tp., Que., assay of, (76-77) p. 481.
- Heron Cove, Lake Superior, assay of, (72-73) p. 111.

Silver ores—*Cont.*

- Lakes Superior and Huron, assays of, (76-77) pp. 479-481.
- Manson Creek, Dunkeld, B.C., assay of, (75-76) p. 430.
- Portland Tp., Que., (?) probably from Lake Superior, assay of, (76-77) p. 481.
- Suffield mine, Ascot, assay of, (75-76) p. 431.
- Van Winkle mine, Cariboo, B.C., assay of, (75-76) p. 429.
- Slag from Moisie Furnaces, analysis of, (66-69) E. p. 283, F. p. 313.
- Slate from Kingsey quarries, analysis of, (1863) p. 600.
- Walton quarries, Melbourne Tp., Que., analysis of, (1863) p. 600.
- Soap clay from Edmonton, analysis of, (73-74) p. 64.
- Sodalite from dykes, Montreal Mountain, analysis of, (74-75) p. 303.
- Soil from Bastard Tp., Ont., Range III., analysis of, (1863) p. 640.
- Chambly, Que., analysis of, (1863) p. 640.
- Montreal Island, analysis of, (1863) p. 640.
- Raleigh Tp., Ont., analyses of, (1863) p. 640.
- St. Anne de la Pocatière, Que., analysis of, (1863) p. 640.
- St. Charles Seignory, Que., analysis of, (1863) p. 640.
- St. Dominique, Que., analysis of, (1863) p. 640.
- St. Hilaire, Que., analysis of, (1863) p. 640.
- St. Hyacinthe, Que., analysis of, (1863) p. 640.
- St. Jean, Port Joli, and St. Thomas, Montmagny, analyses of, (1853) p. 640.
- St. Thomas, Montmagny, Que., analysis of, (1863) p. 640.
- Strathmore, Brantford, Ont., analysis of, (1863) p. 640.
- Solaster Dawsoni*, Verrill, description of, from Virago Sound, B.C., (78-79) p. 192 B.
- Solaster Stimpsoni*, Verrill, description of, from Ramsay Island, Q.C.Is., (78-79) p. 192 B.
- Spathic iron ore from Flint Island, Hudson Bay, analysis of, (77-78) p. 47 G.
- Sutherland River, Pictou, N.S., analyses of, (73-74) p. 239.
- Pictou Co., N.S., near Merigomish, analysis of, (66-69) E. p. 442, F. p. 493.
- Specular iron ore from Pictou, N.S., analysis of, (66-69) E. p. 439, F. p. 491.
- Specular schist from Brome Tp., Que., assay of, (1863) p. 681.
- Sutton Tp., Que., analyses of, (1863) p. 679.
- Sphalerite from White Sand River, Lake Superior, zinc constituent in, (80-82) p. 15 H.
- Sphene, variety lederite, from Grenville, analysis of, (1863) p. 503.
- Sphene from Grenville, Que., analysis of, (77-78) p. 28 G.
- Spirorbis arietina*, Dawson, figure and description of, (66-69) E. p. 14, F. p. 15.
- Steatite from Elzevir and Potton Tps., analyses of, (1863) pp. 469-470.
- Stellarite from Acadia Colliery, N.S., analysis of, (66-69) E. pp. 377-378, F. p. 419.
- Sulphur from Smoky River, N.W.T., analysis of, (75-76) p. 420.
- Syenite from Grenville, Que., analysis of, (1863) p. 654.
- Tailings from Williams mine, Marmora, Ont., assay of, (71-72) p. 141.
- Nova Scotia gold mines, assay of, (70-71) p. 279.
- Talc from Elzevir and Potton Tps., analyses of, (1863) pp. 469-470.
- Talcose shale from Ste. Marie, Beauce, Que., analysis of, (1863) p. 602.
- Tar sand from Athabasca River, analysis of, (80-82) p. 4 H.
- Tellina Meekiana*, Whiteaves, description and figure of, (73-74) p. 268.
- Tenebrio primogenius*, Scudder, description of, from Tertiary of Nine-mile Creek, B.C., (77-78) p. 182 B.
- Tetrahedrite from Hartford mine, Que., assay for silver, (77-78) p. 52 G.
- Titanic iron ores from Frontenac, Leeds and Lanark, analysis of, (71-72) p. 123.
- See also Ilmenite.
- Trachyte from Brome Mt., West Shefford, Que., analysis of, (1863) p. 656.
- Montreal Island, Que., analyses of, (1863) p. 660.
- Trap, altered, from Tahyesco River, B.C., microscopical examination of, (76-77) p. 67.
- Trichonata Dawsoni*, Scudder, description of, from Tertiary of Quesnel, B.C., (75-76) p. 272.
- Trigonia Dawsoni*, Whiteaves, description of species from Siguitat Lake and Iltasyouco River, B.C., (76-77) pp. 154-155.
- Tripolite from Pollet River Lake, Kings Co., N.B., analysis of and practical tests in brick making, (79-80) pp. 3-6 H.
- Trox Oustaleti*, Scudder, description of, from Tertiary of Nine-mile Creek, B.C., (77-78) p. 178 B.
- Uralite from Templeton, Que., analysis of, (77-78) p. 22 G.
- Water of Assiniboine and Red rivers, taken in 1873, analyses of, (78-79) p. 9 C.
- Churchill River, above Kettle Falls, analysis of, (80-82) p. 6 H.
- Hayes River, analysis of, by Prof. Dittmar, (79-80) p. 77 C.
- Nelson River, analyses of, (79-80) pp. 78-79 C.
- Red and Assiniboine rivers, Man., collected in 1879, analyses of, (78-79) pp. 10-11 H.
- Reindeer Lake, N.W.T., analysis of, (80-82) p. 6 H.

Water—Cont.

St. Lawrence and Ottawa rivers, analyses of, (1863) pp. 565-568.

Saskatchewan River, near mouth of Big Stone River, analysis of, (80-82) p. 7 H.

Brandon, Man., well north of, (82-84) p. 18 MM.

See also Mineral water.

Wilsonite from Bathurst Tp., Ont., analysis of, (1863) p. 483.

Wolframite, tungstate of iron, from Lake Couchiching, Ont., analysis of, (1863) p. 503.

Wollastonite from Grenville, Que., analysis of, (1863) p. 465.

Zircon from Grenville, Que., analysis of, (1863) p. 499.

PART III.

GENERAL INDEX TO REPORTS, 1863-1884.

The groups of references under one head are arranged generally in alphabetical order, but for common occurrences such as glacial striae, coal or iron, the localities under each may be grouped under Provinces. References to a given place are arranged in chronological sequence, commencing with the earliest.

For abbreviations see page 3.

NOTE.—It will be understood from the remarks made in the Preface, that in order to obtain references to *all* the published information relating to a subject or locality, it may be necessary to consult also the Indexes of the several Annual Reports from 1885 to date.

- | | |
|---|--|
| <p>Abandoned Indian villages, Queen Charlotte Islands, (78-79) p. 164 B.</p> <p>Abandonment and decay of villages, Haida Indians, (78-79) p. 117 B.</p> <p>Abatogomaw Lake, on route to Mistassini length of, (70-71) p. 284.</p> <p>chloritic schists, dolomites and granites, (70-71) p. 291.</p> <p>copper and iron ores of Paint Mountain, (70-71) p. 296.</p> <p>height of, timber, topography, (70-71) p. 301.</p> <p>Abatagoush Bay, Lake Mistassini, survey of, (70-71) p. 283.</p> <p>Lake Mistassini, Cambrian limestones, (70-71) pp. 294-295.</p> <p>Abazotikichewan Lake, Albany River, portion of, rocks of, (71-72) 107-109.</p> <p>Abercrombie Tp., Que., labradorite, found at Cape Mahue, ornamental stone, (1863) p. 833.</p> <p><i>Abies alba</i>, Michx., note on northward distribution in each province, (79-80) p. 44 C.</p> <p><i>Abies amabilis</i>, Douglas, note on occurrence in British Columbia, (79-80) p. 172 B.</p> <p><i>Abies balsamea</i>, Marshall, note on northern range of, in Canada, (79-80) p. 46 C.</p> <p><i>Abies Canadensis</i>, Michx., note on northern limit of, in Canada, (79-80) p. 51 C.</p> <p><i>Abies Engelmanni</i>, Parry, reported occurrence on S. Saskatchewan River, (79-80) p. 56 C.</p> <p><i>Abies grandis</i>, Lindl., distribution of, in British Columbia, (79-80) p. 172 B.</p> <p><i>Abies nigra</i>, Poir, note on distribution and distinctive characters, (79-80) p. 44 C.</p> <p><i>Abies subalpina</i>, Engelmann, distribution of, in British Columbia, (79-80) p. 172 B.</p> <p><i>Abies Williamsonii</i>, occurrence of, in British Columbia, (79-80) p. 170 B.</p> | <p>Abinger, Ont., red granites in, (72-73) p. 142.</p> <p>Abitibi Lake, survey of, plan, size of lake, (72-73) p. 126.</p> <p>height above sea, (72-73) p. 125.</p> <p>rocks, serpentines, chromic iron ore, (72-73) pp. 127-128.</p> <p>iron ore in small quantities, (72-73) p. 132.</p> <p>timber of surrounding country, (72-73) p. 132.</p> <p>clay plain around, (72-73) pp. 133-134.</p> <p>analysis of serpentine from island in, (72-73) pp. 299-300.</p> <p>estimated height above sea, (77-78) p. 34 C.</p> <p>Abitibi River, impure limestones and serpentines, (72-73) p. 125.</p> <p>note on occurrence of bituminous limestone and carbonaceous shales, (77-78) p. 24 C.</p> <p>report on survey of, by Dr. R. Bell, (77-78) pp. 33-37.</p> <p>survey of, by A. S. Cochrane, table of distances, levels of lakes, (77-78) pp. 33-34 C.</p> <p>total rise in, estimated, (77-78) p. 34 C.</p> <p>list of portages and general character of country, (77-78) p. 35 C.</p> <p>notes on geology of, from notes by A. S. Cochrane, (77-78) p. 36-37 C.</p> <p>black shale, Devonian limestones, Laurentian and Huronian diorites, drift, lignite, (77-78) pp. 36-37 C.</p> <p>Abitibi River and Lake, map of, showing geology; scale, 8 miles = 1 in.; see map of Basin of Moose River, accompanying report C, (80-82).</p> <p>Abrams Chute, rocks at, (72-73) p. 101.</p> <p>Abrams Lake, Ont, width, etc., Huronian rocks of, (72-73) p. 101.</p> <p>A-bun-thil Lake, B.C., Na-coont-loon Lakes. (76-77) p. 36.</p> <p>Acadia Charcoal Iron Co.'s property, position and extent of, (72-73) p. 19.</p> |
|---|--|

- Acadia coal, of Pictou, practical trials on steamships, (66-69) E. p. 423, F. p. 472.
- Acadia Coal Co., New York, extent of rights and workings, (66-69) E. pp. 95-100, F. pp. 107-112.
 railway and loading grounds, buildings, (66-69) E. p. 99, F. p. 111.
 gas trials of coal at Pictou gas works, (66-69) E. p. 434, F. p. 484.
- Acadia coal mines, Pictou, N.S., section of coal measures, (66-69) E. pp. 68-71, F. pp. 76-79.
 strike of seam across, (66-69) E. p. 79, F. p. 88.
 black shales, system of working, (66-69) E. p. 98, F. p. 110.
 slopes, section of seam, (66-69) E. p. 97, F. p. 109.
 description of machinery used, (66-69) E. p. 98, F. p. 110.
 discovery of second seam and section of, (66-69), E. p. 99, F. p. 111.
 analysis of coal from Acadia seam, (66-69) E. p. 381, F. p. 423.
 analysis of coal from McGregor seam, (66-69) E. p. 376, F. p. 417.
 the Stellar seam, analysis of, (66-69) E. pp. 377-379, F. pp. 418-421.
 gas trial at Pictou, (66-69) E. p. 434, F. p. 484.
 gas trial of coal from, at New York, (66-69) E. p. 436, F. p. 487.
- Acadia iron mines, Londonderry, N.S., calculated quantity of ore east of Ross farm, (72-73) p. 22.
 analysis of ore from, (72-73) pp. 29-31.
 analyses of limonite from, (73-74) pp. 231-233.
 cost of labour, (73-74) p. 243.
 cost of mining ore, (73-74) p. 241.
 cost of transporting ore, (73-74) p. 245.
 production of iron ore, (73-74) p. 258.
- Acadia iron ore deposits, Londonderry, report by Dr. Selwyn, (72-73) pp. 19-27.
 map and sections of, (72-73) p. 19.
 course of vein, levels reaching vein, (72-73) pp. 20-21.
 Great Village to Cooks Brook, (72-73) p. 23.
 reference to Dawson's description of, (72-73) p. 23.
- Acadia iron ore district, rocks exposed in streams, (72-73) p. 19.
 railway communication, (72-73) p. 20.
 note on deposits, condition of workings in eastern section, (72-73) p. 20.
- Acadia iron works, connection with Springhill coal-field, (66-69) E. p. 447, F. p. 499.
- Acadia seam, Pictou coal-field, outcrop described, strike and dip, (66-69) E. p. 79, F. p. 88.
 horizon, thickness, quality of coal, (66-69) E. p. 79, F. p. 88.
 discovery, equivalent of, (66-69) E. p. 97, F. p. 109.
- Acadia seam—*Cont.*
 section in colliery, (66-69) E. p. 97, F. p. 109.
 section in slope at Nova Scotia colliery, (66-69) E. p. 103, F. p. 117.
- Acadia colliery, N.S., analysis of coal, 3rd bench (66-69) E. p. 381, F. p. 423.
 Drummond colliery, N.S., description and analysis of benches of, (66-69) E. pp. 382-386, F. pp. 424-428.
 Nova Scotia colliery, analysis of coal, (66-69) E. p. 386, F. p. 429.
- Acadia steam coal, practical trials of, locomotive trials, (66-69) E. pp. 398-401, F. pp. 422-445.
 practical trials of, on steamer St. Lawrence, (66-69) E. p. 401, F. p. 445.
 compared with wood, practical trials of, (66-69) E. p. 405, F. p. 449.
- Acadialite, see Chabazite, var. acadialite, (82-84) p. 28 L.
- Acadian or Menevian group, fossils of, (76-77) p. 434.
- Acadian Geology, 2nd edition, summary of Geology of New Brunswick, referred to, (70-71) p. 27.
- Acer circinatum*, Pursh., occurrence of, in British Columbia, (79-80) p. 175 B.
- Acer dasycarpum*, Ehrh., note on distribution in Canada, (79-80) p. 53 C.
- Acer macrophyllum*, Pursh., occurrence of, in British Columbia, (79-80) p. 175 B.
- Acer nigrum*, Michx., occurrence of, at Grenville, Que., noted, (79-80) p. 54 C.
- Acer Pennsylvanicum*, L., note on distribution of, in Canada, (79-80) p. 53 C.
- Acer rubrum*, L., distribution of, in Canada, (79-80) p. 54 C.
- Acer saccharinum*, Wang., note on northern limit of, in Canada, (79-80) p. 51 C.
- Acer spicatum*, Lam., note on distribution of, in Canada, (79-80) p. 54 C.
- Achigan River, Que., the Trenton group exposed on, (1863) pp. 145-147.
 trap rocks intruded in Trenton group, (1863) p. 147.
 exposure of Utica formation on, (1863) p. 204.
- Acidaspis Horani*, Billings, wood cut of, (1863) p. 190.
- Acid springs, note on presence of sulphuric acid in mineral water of Tuscarora, (1863) p. 556.
 in Onondaga formation. at Tuscarora and Chippawa, Ont., and Byron, N.Y., (1863) p. 352.
 at Tuscarora, Ont., sulphuric acid, analysis of water, (1863) pp. 545-546.
- Acid sulphuric, in spring at Tuscarora, Ont, (1863) pp. 545-546.
 note on presence of, in mineral water in Canada, (1863) p. 556.

- Acid works at Elizabethtown, Ont., near Brockville, (74-75) p. 307.
- Ackers Creek, N.B., section of Cambro-Silurian rocks at mouth of, (82-84) p. 19 G.
description of kame at mouth of, (82-84) p. 21 GG.
- Acmæa cæca*, Müll., wood-cuts of, (1863) p. 964.
- Act establishing survey in 1877, note on, (77-78) p. 1.
- Actinoceras Lyoni*, Stokes, notes on specimens from St. Andrews, Man., (78-79) p. 46 C.
- Actinolite, near Gaspereaux Station, N.B., (76-77) p. 329.
general note on occurrence of, in Canada, analysis of sample from Beauce, Que., (1863) p. 466.
with magnetite at Seymour ore bed and on lot 20, R. 1., Snowden Tp., composition of, (73-74) p. 202.
- Actinolite schists, felspathic, from Eastern Townships, Que., microscopic structure of, (80-82) pp. 14-18 A.
- Active Pass, B.C., rocks of, (76-77) pp. 185-186.
- Acton, Que., concentric masses of calcite in rocks of, (1863) p. 455.
reference to ores of copper found at, (1863) p. 515.
note on occurrence of anthraxolite, (1863) p. 525.
copper deposits in first synclinal, (63-66) p. 33.
- Acton mine, Acton Tp., Que., note on country, rock at, (1863) p. 244.
- Acton Tp., Que., the dolomites of the Quebec group, copper ores at junction of shales, (1863) p. 244.
silver in copper ores of, (1863) p. 517.
analysis of diorite from, (1863) p. 604.
note on galena localities in, (1863) p. 690.
reference to galena carrying silver, (1863) p. 739.
copper localities in, (63-66) p. 308.
analysis of kaolinite from (74-75) pp. 314-315.
microscopic structure of felspathic sandstone from, lot 36, R. XI., (80-82) p. 23 A.
- Actonvale, Que., description of copper-bearing rocks of Quebec group, with section and assays of ore, (1863) pp. 713-717.
- Actonvale mine, general description, with section and assays of ore, (1863) pp. 713-717.
total and yearly output, cost of working, (1863) pp. 716-717.
- ADAMS, F. D., work by, north of Lake Huron, (76-77) pp. 193 and 210.
note on appointment of, (78-79) p. 6.
reference to examinations made by, of rocks from central axis, Quebec, (80-82) p. 2 A.
leave of absence for Europe, work done in laboratory in 1882. (80-82) p. 26.
notes on microscopic structure of some rocks of Quebec group, (80-82) pp. 8-23 A.
summary of work by, for 1883, (82-84) p. 21.
description of lithological characters of rocks of Mt. Albert and Table-top Mt., Gaspé, (82-84) pp. 20-21 F.
- ADAMS, F. D., investigations conducted by:—
Analysis of:—
alunogen, from Springhill, N.S., (78-79) p. 8 H.
clay iron-stone from Smoky River, N.W.T., (79-80) p. 16 H.
felspar from islands near Patridge Bay Georgian Bay, (76-77) p. 197.
hematite from Demoiselle Hill, Amherst Island, Magdalen Island, (79-80) p. 15 H.
hematite from near Loch Lomond, C.B. (80-82) p. 7 H.
lignite ash from Roche Percée, Souris River, N.W.T., (79-80) pp. 6-7 H.
limestone from Fort Pelly, N.W.T., (76-77) p. 488.
magnetite from lot 13, R. IV, Bagot Tp., (80-82) p. 8 H.
magnetite from Lutterworth Tp., Haliburton Co., Ont., (78-79) pp. 15-16 H.
magnetite from lot 17, R. XI, Olden Tp., Frontenac Co., Ont., (80-82) p. 8 H.
magnetite from Thunder Bay, (80-82) p. 8 H.
manganese ores from Cape Breton, (80-82) p. 12 H.
manganite from Magdalen Islands, (79-80) p. 18 H.
mineral water from MacMaster's mill, Queensville, C.B., (79-80) p. 7 H.
pyrrhotite from eleventh range, Sutton, Que., (79-80) p. 21 H.
scapolite from Ripon, Tp., Que., (77-88) p. 32 G.
water of Red River and Assiniboine River, Man., collected in 1879, (78-79) pp. 10-11 H.
waters from Reindeer Lake, Saskatchewan and Churchill Rivers, (80-82) p. 6 H.
- Assays of:—
copper-pyrites from Spanish River, for silver, (79-80) p. 19 H.
galena for gold and silver, from Boulder Creek, Omenica, (78-79) p. 24 H.
galena from Fitzroy Tp., Carlton Co., (79-80) p. 19 H.
galena from Sterling mine, Cowitchen, Vancouver Island, (79-80) p. 20 H.
galena from York Co., N.B., north part, east of St. John River, (78-79) p. 18 H.
gold and silver ores, (80-82) pp. 12-16 H.
Dr. Bell's specimens from Keewatin, (78-79) pp. 20-23 H.
manganese ores from Mira Hills, Salmon River road, C.B. (79-80) p. 17 H.
mispickel from copper mine, Coxheath Hills, C.B., (78-79) p. 17 H.
mispickel from Grant settlement Musquodoboit River, N.S., (79-80) p. 18 H.
mispickel from Marmora? (79-80) p. 19 H.
iron-pyrites from Dalhousie Tp., for gold and silver, (79-80) p. 20 H.
quartz from Wakefield and Chaudière, Que., (78-79) pp. 18-19 H.
quartz for gold and silver, from Champion Ledge, Omenica, B.C., and Gnarled Island, Q.C.Is., (78-79) p. 24 H.
various ores (82-84) pp. 3-19 MM.

- Adams Island, mouth of Passamaquoddy Bay, section, copper ores, (70-71) p. 89.
- Adams Island mine, N.B., statistics of copper ore, 1869, (71-72) p. 151.
- Adams Lake, B.C., outlet from timber in valley, (77-78) p. 26 B.
- Adams Lake series, Notes on exposures on Shuswap Lake, divisions C. and D., (77-78) pp. 97-98 B.
- Adam's Mine, N. Burgess, Ont., note on apatite deposits, cost of mining and transport, (82-84) pp. 7-8 L.
- Adam's oil spring, York Tp. Gaspé, petroleum found at, (1863) p. 789.
- Addington Co., Ont., report by H. G. Vennor, part of report, (72-73) pp. 136-179. rocks of northern part, (72-73) pp. 138-143. division B and lower part of C, Hastings series, (66-69) E. p. 153, F. p. 169. works in by G. Vennor, (66-69) p. 5.
- Addington Road, Ont., survey of, (66-69) E. p. 144, F. p. 159. thickness of division B, Hastings series exposed, (66-69) E. p. 153, F. p. 169. section of crystalline rocks measured by Vennor, 1874, (74-75) p. 106. banded limestones of Lanark, Ont., (74-75) p. 146. trough of rocks on. (76-77) p. 254.
- Additions to Library of Survey, List of publications acquired by presentation, purchase and exchange, (74-75) pp. 17-23. April, 1875, to April, 1876, (75-76) pp. 22-27. for 1876-77, (76-77) p. 9. for 1877-78, (77-78) pp. 11-19. by presentations and purchase during 1879. (78-79) pp. 7-14. by presentations and purchase during 1882, (80-82) pp. 30-44. list of books purchased and presented, 1883, (82-84) pp. 29-46.
- Adelaide Tp., Ont., boring in, (63-66) p. 248.
- Adjala Tp., Ont., Clinton formation reaching out to, (1863) p. 315.
- Admiral Island or Saltspring Is., B. C., sandstones and shales of, (71-72) p. 87. salt springs on, (71-72) p. 89. fine vegetables and fruits, (71-72) p. 96.
- Admiralty, coast surveys of Cape Breton used in map, (76-77) p. 404.
- Admiralty trials and report on Little Glace Bay coal, C. B., (72-73) p. 260.
- Adstock Mountain, Que., microscopic structure of altered diabase and a diorite from (80-82) p. 13 A.
- Advantages of direct methods of extracting iron from ores, (66-69) E. p. 274, F. p. 303.
- Advantages of Goderich region for salt making, (66-69) E. pp. 239-241, F. pp. 265-267.
- Adzes used by Haida Indians in figs. 13 and 14, (78-79) p. 143 B.
- Adze used by Haidas figured on plate VIII, (78-79) B.
- Agalmatolite, varieties of, localities and analyses of, (1863) pp. 48 D and 48 C. note on occurrences of, in Eastern Townships, with analyses from five localities, (1863) pp. 484-485. note on, reference to description of, occurrences in Quebec, (1863) p. 60 D. from St. Nicholas, St. Francis and Stanstead, Que., analyses, (1863) p. 485.
- Agate, note on occurrence of, in Ontario and Quebec, (1863) p. 500. note on uses of, localities where found, (1863) pp. 831-832.
- Agates of Bonaventure formation, Gaspé pebbles, (1863) p. 832. eastern coast, character of, (77-78) p. 22 C. amygdaloid beds on Manitounuck Sound, H.B., (77-78) p. 15 C. found in agglomerates of Masset Inlet, (78-79) p. 88 B. Michipicoten Island, (63-66) p. 140. occurrence of, in rocks of Lake Superior and the Bonaventure formation, (1863) p. 500. note on mode of occurrence on Lake Superior, (1863) p. 71.
- Age, use of term in Survey Reports, (80-82) p. 48.
- Age of Australian gold-bearing veins, (70-71) p. 257. granite areas of Eastern Quebec, (80-82) p. 5 A. intrusive dykes in Huronian, note on succession, mineral veins, (1863) p. 59. intrusive rocks of Laurentian, (1863) p. 42. Laurentian rocks, difficulties respecting, (76-77) p. 245. Nova Scotia gold-bearing veins, (70-71) p. 257. sediments, partially fixed by proportion between alkalies and alumina contents, (1863) p. 572. Sweet Grass Hills, igneous mass, (82-84) p. 48 C. rocks of Mount Royal, Montreal, (77-78) p. 45 G.
- Agglomerates, south side Cumshewa Inlet, Q. C. Is. (78-79) p. 82 B. Fraser Lake, B.C., (76-77) p. 84. McKay Cove, Cumshewa Inlet, galena veins, (78-79) p. 77 B. Masset Inlet, associated rocks, (78-79) p. 88 B. with fossiliferous limestone fragments, Nicola Lake, (77-78) p. 75 B. Ramsay and Tar Islands, Q. C. Is., (78-79) p. 60 B. Skidegate Inlet, thickness and lithological character, (78-79) p. 69 B.
- Agglomerates and ash rocks, Triassic, of east part of Moresby Island and adjacent island Q. C. Is., (78-79) p. 59 B.
- Agglomerate Island, Juan Perez Sound, Q. C. Is., description of, (78-79) p. 22 B.

- Agawa River, L. Superior, Laurentian rocks of (76-77) p. 217.
- Agnes Lake, Ont., north of Whitewood Lake, rocks of, (72-73) p. 96.
- Agotawekami Lake, rocks of, age, (72-73) p. 125.
- Agriculture limits of, in Central B. C., (77-78) p. 7 B.
- at Fort George, B.C., (76-77) p. 53.
- possibility of, near François Lake, (76-77) p. 50.
- Lesser Slave Lake district, (79-80) p. 91 B.
- near Lac la Biche, note on, (79-80) p. 97 B.
- of Manitoulin Islands, (63-66) p. 168.
- at Stuart Lake, B.C., gardens at Fort St. James, (79-80) p. 29 B.
- Agricultural lands in Foothills, Alberta, note on, (82-84) p. 12 C.
- Bonaventure River valley, (82-84) p. 8 E.
- between Rouge and Mattawin rivers, Que., (70-71) p. 7.
- Agricultural possibilities of Ashuapmouchouan River, Que., (70-71) p. 296.
- Agricultural value of Skeena district, B. C. (79-80) p. 17 B.
- Aikman's plaster bed, note on deposit of gypsum at, (1863) p. 349.
- Ailsa Craig, McGillivray Tp., record of wells, (63-66) p. 248.
- Ain River, Masset Inlet, Q. C. Is., description of, (78-79) p. 37 B.
- Ainleyville, Ont., boring for salt, (74-75) p. 288.
- Ainslie Lake, C. B., reported oil region, summary of work by H. Fletcher, (80-82) pp. 6-7.
- syenite and felsite area Pre-Cambrian rocks of east side, (82-84) pp. 8 H, 9 H.
- Lower Carboniferous grits and sandstones, Lower Carboniferous, limestones series, (82-84) pp. 38, 40, 50 H.
- description of sandstones and conglomerates at mouth of Trout and Jumping brooks, (82-84) p. 45 H.
- note on borings for oil, (82-84) p. 90 H.
- Akamina Brook, Rocky Mts., near Boundary, mural cliffs on sides of valley, (82-84) pp. 27-28 B.
- Akerly's opening for coal, Newcastle R., N. B., Dip and thickness of seam at, (72-73) p. 203.
- A-kew-i-new-si-pi, west of Athabasca River, description of county near, (79-80) p. 93 B.
- Alaska, estimate of number of indians of Kai-an-i stock, (78-79) p. 174 B.
- Albany mine, Michigan trap overlying conglomerate, description of, (63-66) p. 155.
- Albany River, black trap rocks reported on, (66-69) E. p. 349, F. p. 386.
- cord of seasons of navigation below Martin Falls, (71-72) p. 110.
- Albany River—*Cont.*
- from Martin Falls to Ogoki River, current, etc., (71-72) p. 111.
- from Ogoki River to Kenogami, (71-72) p. 111.
- loose pieces of bituminous coal from, (71-72) p. 112.
- marine shells in clay at the Forks, (71-72) p. 112.
- survey of, by Dr. Bell, from Abazotikitchewan River to Kawozami, (71-72) pp. 109-112.
- Albemarle Tp., Ont., lake-front occupied by Medina and Clinton, (1863) p. 319.
- Alberni, V.I., coal at, recorded, (76-77) p. 124.
- Alberni road, Vancouver I., description of, (72-73) pp. 52-53.
- rocks exposed on, (72-73) pp. 53-56.
- section of crystalline rocks on, (72-73) p. 56.
- examination of rocks from, by Dr. Harrington, (72-73) p. 82.
- rocks near Qualicum River, B.C., (76-77) p. 165.
- Alberta, N.W.T., horizon of coal seams, outcrops traced in, (80-82) p. 13.
- Alberta Mining Co.'s locations, Rocky Mountains, Storm Mt. and Copper Mt., near Laggan, assays of ores for gold and silver, (82-84) p. 16 MM.
- Albert Bridge, Cape Breton Co., N.S., shales and sandstones on Sydney road, (77-78) p. 11 F.
- Millstone grit exposures near, (77-78) p. 24 F.
- Albert Co., N.B., Laurentian area in central part of, (70-71) p. 34.
- Coastal group of Huronian, (70-71) pp. 97-100.
- rocks along coast from Little Salmon River and north-east of Point Wolf, (70-71) p. 100.
- succession of beds of Lower Carboniferous, (70-71) p. 205.
- Lower Carboniferous rocks of, (70-71) p. 208.
- areas of Triassic or New Red Sandstone, (70-71) p. 217.
- localities for copper ores, (70-71) p. 227.
- trappean rocks of Mesozoic age discovered, (71-72) p. 144.
- discovery of granites in, (71-72) p. 144.
- pre-Silurian rocks of, by R. W. Ells, (77-78) pp. 1-13 D.
- reported discovery of gold in metamorphic rocks, (77-78) p. 12 D.
- geological report and resumé of geology of, by Bailey, Matthew and Ells, with map, (78-79) pp. 1-26 D.
- note on copper ores of, (80-82) p. 23 D.
- copper mine, note on quality and quantity of ore, (80-82) pp. 23-24 D.
- assay of quartz for gold and silver, (82-84) p. 5 MM.
- Albert and Westmoreland cos., N.B., list of glacial striae, (77-78) p. 9 E.

- Albert and Westmoreland Cos.—*Cont.*
the Lower Carboniferous and Albert shales of, by L. W. Bailey and R. W. Ellis, with map, on scale of 1 in. to 1 mile, (76-77) pp. 351-401.
- Albertite, analysis of, (76-77) p. 396.
analysis of, by Gleason and Howe, (66-69) E. p. 380, F. p. 421.
breccia, nature of, Albert mines, N.B., (76-77) p. 368.
Albert mines, Albert Co., N.B., note on, (70-71) p. 230.
importance of deposit, (76-77) p. 351.
note on further explorations for, (78-79) p. 25 D.
in Lower Carboniferous conglomerate at Haley Farm, Mechanic settlement, N.B., (78-79) p. 17 D.
reported in shales near Penobscus, N.B., (78-79) p. 17 D.
mode of occurrence, (76-77) pp. 385-388.
period of its formation, (76-77) p. 389.
former views as to its origin, (76-77) p. 389.
probabilities of its occurrence in other localities, (76-77) p. 391.
physical and chemical characters of, (76-77) p. 385.
specific gravity of, (76-77) p. 397.
statistics for N.B. for 1869-71, (71-72) p. 151.
thickness and character of vein, (76-77) p. 368.
vein structure at Albert mines, (76-77) p. 388.
- Albertite beds in Mechanic settlement, Kings Co., N.B., (77-78) p. 24.
- Albert mines, Ascot Tp., extent of workings of, copper (63-66) p. 41.
- Albert mines, Albert Co., N.B., section of Lower Carboniferous at, (70-71) p. 209.
Hartley's correspondence on, (70-71) p. 5.
statistics for 1869-71 (71-72) p. 151.
section of Lower Carboniferous rocks, (76-77) p. 356.
diagrammatic section, face of, (76-77) p. 356.
area occupied by shales, (76-77) p. 365.
anticlinal structure of, (76-77) p. 367.
condition of, (76-77) p. 392.
- Albert shales, characters of, (76-77) pp. 356-386.
distribution in Albert and Westmoreland cos., N.B., (76-77) p. 357.
fossil fish remains found in, source of bitumen, (76-77) p. 357.
fossils found near Mapleton, (76-77) p. 358.
fossils of Pollet River and Prosser Brook, pp. (76-77) pp. 361-363.
fossils of, general note on, (76-77) p. 387.
general structure of basin, (76-77) p. 369.
horizon of, other examples of shales in Kings Co., (78-79) p. 16 D.
mode of deposition, (76-77) p. 387.
origin of, (76-77) p. 388.
report on, by L. W. Bailey and R. W. Ellis, (76-77) pp. 351-401.
- Albion group of coal seams in relation to the north fault, (66-69) E. p. 82, F. p. 92.
distribution, (66-69) E. p. 73, F. p. 82.
- Albion group—*Cont.*
outcrop westward Pictou coal field, (66-69) E. p. 76, F. p. 84.
- Albion mines, Pictou, N. S., assays of samples from main seam by J. W. Dawson, (66-69) E. p. 371, F. p. 411.
area, pits, machinery, output, railway, etc., (66-69) E. pp. 86-95, F. pp. 96-107.
general system of mining, pillar and bord, (66-69) E. p. 92, F. p. 104.
back balance, (66-69) E. p. 93, F. p. 104.
column of coal for New York Industrial Exhibition, 1852, (66-69) E. p. 369, F. p. 410.
abstract of statements by J. W. Dawson on coal of, (66-69) E. p. 370, F. p. 411.
Deep Cage Pit seam, Prof. How analysis of coal, (66-69) E. p. 375, F. p. 416.
Deep Cage Pit seam, analysis of coal by Brown, (66-69) E. p. 374, F. p. 415.
Deep Cage Pit seam, assays of samples J.W. Dawson, (66-69) E. p. 374, F. p. 415.
Deep Cage Pit seam, character of ash from coal of, (66-69) E. p. 375, F. p. 416.
Deep Cage Pit seam, section by J. W. Dawson, (66-69) E. p. 373, F. p. 414.
faults, gas near faults, cleats or joints, (66-69) E. p. 95, F. p. 106.
fire damp precautions, difficulties, (66-69) E. p. 94, F. p. 105.
Foord pit, analysis of coals by Hartley, (66-69) E. p. 372, F. p. 413.
Foord Pit, analysis of coal by Prof. How, (66-69) E. p. 372, F. p. 413.
Foord Pit, quality of coal reported on by How, (66-69) E. p. 372, F. p. 413.
iron manufactured for stamp head, (73-74) p. 252.
section of main seam, J. W. Dawson, (66-69) E. p. 369, F. p. 410.
Main seam, specific gravity of coal, (66-69) E. p. 370, F. p. 411.
character of coal, main seam, E. p. 370, F. p. 410.
gas trials of coal at Halifax and Boston, (66-69) E. p. 435, F. p. 435.
gas trials at Pictou, (66-69) E. p. 434, F. p. 484.
- Albion and Acadia mines, section of coal measures in, (66-69) E. pp. 67-71, F. pp. 75-79.
- Albion synclinal, Pictou coal-field, (66-69) E. p. 73, F. p. 81.
- Albion Tp., Ont., Clinton formation, outcrop of, in, (1863) p. 315.
note on boulders on Oak Ridge, (1863) p. 895.
- Albite, description of, with analysis, localities, (1863) p. 477.
note on occurrences of, in Laurentian rocks, (1863) p. 587.
crystals in Templeton, partial analysis of, (77-78) p. 30 G.
veins in Laurentian, localities, (1863) p. 36.

- Albreda Lake, branch of North Thompson River' B.C., crossing of, (71-72) p. 36.
reached by Dr. Selwyn, (71-72) p. 57.
followed by Dr. Selwyn, (71-72) p. 37.
barometer readings at, (71-72) p. 45.
rocks of, granite, gneiss, etc., (71-72) p. 65.
- Albreda Lake River, B.C., upper part described by Selwyn, (71-72) pp. 37-38.
- Albright Brook, Wickham, N.B., rocks of Silurian age, (75-76) p. 361.
- Alder, of British Columbia, note on, (79-80) p. 176 B.
- Alder Island, north of Burnaby Is., Q.C. Is., description of, (78-79) p. 20 B.
- Alex. Cowan's location (apatite) N. Burgess, extent of working, quantity raised, (71-72) p. 126.
- Alex. McKay's five-foot seam, Pictou, section of rocks, (66-69) E. p. 44, F. p. 49.
- Alex. Taylor's plaster beds, statistics to 1871, (71-72) p. 147.
- Alexandria, Ont., building stone of Trenton limestone, (1863) p. 172.
- Alexis Creek, Chilcotin River, B.C., character of valley, area of cultivable land, (75-76) p. 236.
- Alexis Mountain, north of Chilcotin River, B.C., probably of rocks of Lower Cache Creek group, (75-76) p. 248.
- Alfred Tp., Ont., the Trenton group in, (1863) p. 171.
note on mineral spring, location of, (1863) p. 532.
- Algerite, note on occurrence, (63-66) p. 208.
- Algoma District, Ont., surveys in for 1870 by Dr. R. Bell, (70-71) p. 9.
- Algoma mine, gray sandstone, weathering rusty, (66-69) E. p. 324, F. p. 357.
- Algoma sand, description and distribution of, (1863) pp. 907-908.
- Alick Island, St. Peter Inlet, C.B., trap of, (77-78) p. 20 F.
- Alkalies, their relation to age of rocks, (1863) p. 572.
from country west of Assiniboine River, composition of, (78-79) p. 10 C.
- Alkaline waters, examples of mineral springs of, (1863) p. 532.
analyses of, (1863) p. 549.
note on presence of carbonates and carbonic acid in mineral waters, (1863) p. 557.
- ALLAN, Hon. G. W., magnetic iron ore on property in North Crosby, Ont., (70-71), p. 313.
- Allanite found at Bay St. Paul, Que., (1863) p. 505.
occurrence of, (63-66) p. 212.
- Allandale, N.B., conglomerates of Primordial basal beds, (77-78) p. 29 DD.
- Allan's iron ore location, North Crosby, Ont., analysis of magnetite, (73-74) p. 211.
extent of ores, analysis of, (74-75) p. 121.
- Allans iron mine, referred to, horizon of ore of, (76-77) p. 296.
- Allan's Mills, Seymour Tp., Ont., note on magnetic iron ore at, (1863) p. 676.
horizon of ore bed, (66-69) E. p. 152, F. p. 168.
- Allan Line Steamships, comparative trials of Pictou and Welsh coals, (66-69) E. p. 424, F. p. 472.
- Alleghany Co., Penn., analysis of brine, (63-66) p. 267.
- Alliford Bay, Skidegate, coaly layers in sandstone near, (78-79) p. 67 B.
sandstone and agglomerate junction, diagram of section, (78-79) p. 68 B.
rocks of agglomerate series, area occupied, (78-79) p. 69 B.
- Allison Pass, South Similkameen River, height of, (77-78) p. 48 D.
- Allison ranch, Okanagan Lake, B.C., grazing land, (77-78) p. 56 B.
- Allumette Island, Ottawa River, absence of Potsdam sandstone noted on, (1863) p. 93.
Chazy formation on, (1863) p. 128.
note on phosphatic nodules found in chazy, analysis of, (1863) p. 462.
note on outline of Trenton, (1863) p. 176.
Silurian on island, (76-77) p. 277.
- Allumette Lake, Ottawa River, granite vein with mica tourmaline and zircon, (1863) p. 35.
outline of Trenton group, note on, (1863) p. 176.
- Allumette Rapids, Ottawa, phosphatic beds and nodules in Chazy formation, (1863) p. 125.
- Alluvial workings on Gilbert River, Que., report by Mr. Lockwood, (70-71) pp. 275-276.
- Alluvial gold deposits of Nova Scotia, reference to Prof. Hind's remarks on, (70-71) p. 273.
should be found, reasons why, (70-71) p. 274.
- Alluvial plain of first prairie steppe, (74-75) p. 49.
- Alluvium in Southern New Brunswick, (77-78) p. 32 BB.
- Alma, Albert Co., N.B., assay of iron ore and quartz for gold and silver, (82-84) p. 5 MM.
- Alma Copper mine, N.B., statistics of production for 1870, (71-72) p. 151.
- Alma Island, Saguenay River, labradorite rocks on, (82-84) p. 8 D.
Trenton limestone exposures on, (82-84) p. 14 D.
- Alma Mills Bridge, section of New Glasgow conglomerate, N.S., (66-69) E. p. 64, F. p. 71.
- Alma Tp., Lake St. John, Trenton limestone, lots 7 and 8, R. I., (82-84) p. 14 D.
- Almandine and essonite of apatite-bearing rocks, Ottawa Co., (77-78) p. 26 G.

- Alnus incana*, Willd., note on range of in Canada, (79-80), p. 55 C.
- Alnus rubra*, Bongard, note on distribution in British Columbia, (79-80) p. 176 B.
- Alpine pastures of higher plateau country, (71-72) p. 70.
- Alpine plants of mountains of British Columbia, (71-72) p. 71.
- Alpine meadows, in valleys near Tahyesco River, B.C., (76-77) p. 33.
- Alpine pastures near Il-ga-chuz Mts., Bella Coola Trail, (76-77) p. 37.
- Alpine vegetation of Il-ga-chuz Mts., (76-77) p. 37.
- Alright Island, Magdalen Is., rock formation of, (79-80) p. 5 G.
sandstones of, (79-80) p. 6 G.
note on gypsum localities in, (79-80) p. 9 G.
- Altenberg, referred to, (63-66) p. 122.
- Alteration of olivine to serpentine, diagrams showing crystals partially altered, (77-78) p. 42 G.
sedimentary rocks in Eastern Quebec, in contact with granite, (80-82) p. 4 A.
- Altered argillites of Shumway Lake and plateau near Douglas Lake, B.C., (77-78) p. 79 B.
- Altered diabases from lot 14, R. VI., lots 12 and 24, R. X., Pottou Tp., Que., and from Adstock Mt., Adstock Tp., microscopic structure of, (80-82) pp. 12-13 A.
- Altered rocks, *see also* Metamorphism.
Devonian, at Dudswell, Que., analysis of, (1863) p. 617.
Devonian, of Famine River, Que., fossils of, (1863) p. 428.
minerals of, chemical origin of, (1863) p. 579.
Quebec Group, general description of, (1863) p. 597.
Upper Silurian, general description of, (1863) pp. 616-618.
- Altitude of Sweet Grass Hills, (82-84) p. 17 C.
- Alumina, hydrates of, in sediments of Tertiary of Europe, (1863) p. 578.
silicates of, origin of, in rock formations, (1863) p. 577.
salts of, note on presence of, in mineral waters of Canada, (1863) p. 554.
silicates of, description of species and occurrences, (1863) pp. 473-500.
- Aluminous pyroxene, from Bathurst, analysis of, (1863) p. 467.
Grenville mica mines, characters and analysis of, (74-75) pp. 301-302.
- Aluminous shales of Hooper's mill, Framboise River, C.B., (77-78) p. 5 F.
- Aluminous silicates, descriptions of, with analyses of principal species, occurrence in Canada, (1863) pp. 473-500.
- Alunogen from Scotia mine, Springhill, N.S., analysis of, (78-79) p. 3 H.
- Alunite, occurrence of, in specular ore, New Ireland road, Albert Co., N.B., noted, (82-84) p. 19 MM.
- Alveolites cryptodens*, Billings, wood-cut of, (1863) p. 366.
- Alveolites Fischeri*, Billings, wood-cut of, (1863) p. 383.
- Alveolites Goldfussi*, Billings, wood-cut of, (1863) p. 383.
- Alveolites labiosa*, Billings, wood-cut of, (1863) p. 366.
- Alward Brook, N.B., rocks of, coal seam probable, (72-73) p. 215.
- Amador Creek, B.C., no gold yet found on, (76-77) p. 138.
- Amaguadees Pond, C. B., red syenite of (76-77) p. 411.
rocks of, (76-77) p. 445.
stratified sands of, (76-77) p. 448.
- Amelanchier alnifolia*, Watson, occurrence in British Columbia, (79-80) p. 176 B.
- Amalgam,—*see also* Mercury.
native in B. C., Vital Creek, (76-77) p. 116.
Amalgamation, note on Wurtzes process, (63-66) p. 80.
- Amazon stone, from Port Manners, Labrador, (82-84) p. 12 DD.
occurrence of, at Smart's mine, Sebastopol, Ont., noted, (82-84) p. 7 L.
- Amber, small spots and drops in Lignite formation at Quesnel, (75-76) p. 257.
- Amber or fossil resin*, examination of, from Saskatchewan, Peace and Nechacco rivers, (76-77) pp. 471 and 472.
in lignite bed on Porcupine Creek, 49th parallel, (79-80) p. 29 A.
- Ambonychia radiata*, Hall, woodcut of, (1863) p. 215.
- American Association for Advancement of Science, 1882, papers read by members of Survey, (80-82) p. 23.
- American elm, note on distribution and northern limit of, in Canada, (79-80) p. 48.
- American Institute of Mining Engineers, report quoted, Hunt T. S., on salt region, Goderich, (76-77) p. 221.
- American Navy, trials of Pictou coals, reports by Prof. Johnston (66-69) E. pp. 410-421.
F. pp. 455-469.
trials of Pictou coals, apparatus employed, (66-69) E. p. 411, F. p. 456.
classification of Pictou coals, (66-69) E. p. 413, F. p. 458.
table of results, (66-69) E. p. 416, F. p. 463.
table of results of trials, (66-69) E. p. 420, F. p. 468.
- American plane-tree, note on range of, in Canada, (79-80) p. 55 C.
- Amethyst, occurrence of, on Lake Superior, note on, (1863) p. 500.
Lake Superior rocks, note on, (1863) p. 832.

- Amethyst vein, reported on Wabinoash River, Nipigon, (66-69) E. p. 360, F. p. 399.
- Amethysts noted as found in trap rocks of Dalhousie N.B., (79-80) p. 39 D.
- Amethyst Harbour, Lake Superior, magnetic iron-ore from, (66-69) E. p. 358, F. pp. 395-6. traverse of shore near, rocks of, (72-73) p. 90.
- Amherstburg, Ont., Corniferous fossils found near, (1863) p. 378.
- Amherst Island, Magdalen Is., section of rocks on Pleasant Bay, (79-80) pp. 3-4 G.
note on occurrence of gypsum, (79-80) p. 4 G.
note on gypsum of Pleasant Bay, (79-80) p. 9 G.
note on manganese deposits, (79-80) p. 10 G.
analysis of hematite from near Demoiselle Hill, (79-80) p. H.
analyses of manganite from, (79-80) p. 18 H.
- Amherst stone, Ohio, specific gravity and absorbing power, (82-84) p. 3 MM.
- Amianthus, see asbestos, (1863) p. 473.
- AMI, H. M. graptolites from Matane, Que., identified by, (80-82) p. 23.
fossils presented to Museum, (80-82) p. 24.
list of fossils from Griffin Cove River, Gaspé, (80-82) p. 7-8 DD.
fossils determined by, from Gaspé Peninsula, Matane and Tartigo River, (80-82) p. 29 DD.
work by, in museum, (82-84) p. 17.
date of appointment, (82-84) p. 23.
fossils determined from Miners Brook, Gaspé, (82-84) p. 23 E.
- Ammonite Bend, Peace River, photograph taken, (75-76).
- Ammonites, range of genus, notes on Q.C.Is. specimens, (72-73) pp. 73-74.
- Amphibolite, general characters of, (1863) p. 649.
Blythfield, referred to, (63-66) p. 95.
- Amphibole, general description of, with analyses, varieties of, localities of occurrence, (1863) p. 466.
- Amphion Canadensis*, Billings, wood-cut of, (1863) p. 133.
- Amphion Cayleyi*, Billings, wood-cut of pygidium, (1863) p. 239.
- Amphion Salteri*, Billings, wood-cut of specimen from Phillipsburgh, Que., (1863) p. 278.
- Ampyx Halli*, Billings, wood-cut of parts of, found at Highgate Springs, (1863) p. 274.
- Amygdaloid or spilite, class of rocks so named, (1863) p. 645.
general characters of, (1863) p. 651.
from Batchewana Bay, Ont., (76-77) p. 213.
of the Beaver Cove Road, C.B., (76-77) p. 430.
from Bourinot Road, C.B., (76-77) p. 428.
of Dugald Brook, N.S., (76-77) p. 413.
- Amygdaloid or spilite—*Cont.*
Gargantua Cape, (76-77) p. 218.
Grand Portage mine, (63-66) p. 160.
Horton Brook, Inverness Co., (79-80) p. 11 F.
Huronian, general note on, (1863) p. 58.
Indian Brook, C.B., (76-77) p. 430.
Lake Superior, minerals usually found in, (1863) p. 71.
Lake Superior, origin of, source of copper in, (1863) p. 699.
Point aux Mines, vicinity of, (76-77) pp. 214-216.
Quebec Group at St. Flavien, Que., with copper ores, (1863) pp. 242, 719.
Quebec Group, noted at Cleveland, Que., (1863) p. 607.
on Scatari Island, C.B., (77-78) p. 7 F.
Victoria mine, Garden River, Ont., (76-77) p. 212.
- Amygdaloid rock under Pewabic lode, Quincy mine, Michigan, (63-66) p. 154.
- Amygdaloidal sandstones or grits, at Millville, Southampton, N.B., (82-84) p. 20 G.
- Amygdaloid diabase, Lake Superior, (63-66) p. 123.
- Amygdaloidal trap of upper part of Upper Copper-bearing series, general thickness and mode of occurrence, (1863) pp. 70-72.
on Tobique River, N.B., (66-69) E. p. 202, F. p. 224.
- Anahim or Beece Peak, B.C., situation of, (76-77) p. 26.
volcanic origin of, obsidian of, (76-77) p. 79.
- Analcime, found in amygdaloids of Lake Superior, and with native copper on Michipicoten Island, (1863) p. 481.
- Analcite in dykes of Montreal Mt., note on, (74-75) p. 304.
analysis of, (77-78) p. 45 G.
- Analysis of Apatite, methods employed in, (77-78) p. 2 H.
- Analysis of coal, classification, methods employed, value of theoretical results, (66-69) E. pp. 366, 368, F. pp. 406-407, methods employed, (82-84) pp. 2-5 M.
- Analyses of minerals &c., see Part II, p. 21, also under name of subject and locality of occurrence in General Index.
- Anamesites, dolerites and diabase rocks of York Co., N.B., general characters of, (82-84) p. 26 G.
- Ancaster, Ont., analysis of mineral water, (63-66) p. 272.
section of Niagara Formation near, (1863) pp. 323-324.
mineral spring at, analysis of water, (1863) pp. 533 and 547.
iron ore in Clinton Formation, result of assay, (1863) p. 682.
clay deposits, (1863) p. 902.

- Ancaster Tp., Ont., western edge of Hamilton Formation, south of Dundas anticlinal, (1863) p. 329.
- Anchorage in Cumshewa Inlet, Q. C. Is., (78-79) p. 29 B.
around North Island, Q. C. Is., (78-79) p. 40 B.
at York Factory, depth, &c., (79-80) p. 4 C.
- Anchor Cove, Skidegate Inlet, Q. C. Is., width of coal-measures, (72-73) p. 62.
note on longitude of, (78-79) p. 238 B.
- Anchor Point, Nfd., section of rocks along coast, (1863) p. 289.
rocks of, equivalent to Calciferous, fossils common to both, (1863) p. 293.
- Ancient channels in alluvial gold fields, importance of locating, (70-71) p. 276.
- Ancient coast of the continent in Palæozoic times, slope of, (1863) p. 295.
- Ancient copper mining at Mamainse, L. Superior, evidence of, (1863) p. 701.
- Ancient Eskimo camp at Nottingham Island, at Port De Boucherville, (82-84) p. 30 DD.
- Ancient lake beaches of Ontario, (1863) pp. 910, 915.
- Ancient river valleys of 1st & 2nd prairie steppe, (74-75) p. 46.
- Ancient springs in Calciferous Formation, remains indicating, (1863) p. 121.
- Andalusite in argillites, noted from Lake St. Francis, Que., (1863) p. 617.
note on occurrence of, on Lake St. Francis, Que., (1863) p. 499.
of Moore's Lakes, Charlotte Co., (76-77) pp. 328-329.
crystals of, at Moore's Mills, Charlotte Co., N.B., (70-71) p. 240.
in rocks of Dennis Stream, N.B., (70-71) p. 56.
- Andalusite slates, *see* also Chistolite slates, Lake St. Francis, Que., (1863) p. 430.
- ANDERSON, JAS., Devonian fossils from Moose River, collected by, (70-71) p. 10.
- ANDERSON, JOHN, information given by, Spring-hill coal-fields, (71-72) p. 13.
outcrops of coal seams traced by, (71-72) p. 13.
sections in bore holes, sunk by, (73-74) pp. 155-156.
- Anderson Creek, B. C., gold workings on, (76-77) p. 138.
- Anderson River, group of rock on Fraser River, B. C., (71-72) p. 62.
rocks of crystalline series (71-72) p. 63.
rocks of mountains facing valley of Fraser River, (71-72) p. 64.
gold on, (76-77) p. 142.
- Boston Bar, B. C., description of valley at (77-78) p. 37 B.
the rocks and fossils of Cretaceous area, (77-78) pp. 107-108 B.
- Anderson River argillites, age of, given in table of formations, (77-78) p. 173 B.
- Audesine, general description of, with analyses of specimens from Château Richer and Lachute, (1863) p. 478.
- Andover, N.B., section of terrace in valley of St. John, below town of, (82-84) p. 32 GG.
- ANDREWS, PROF. E. B. quoted, (63-66) p. 256.
- Andrews Brook, Bay of Chaleurs, fossiliferous limestones on, (1863) p. 449.
- Angiospermous Exogens, note on fossil woods from Van. & Q. C. Is., (72-73) p. 68.
- Angle Mountain, Shuswap Lakes, height of, (77-78) p. 23 B.
marble beds occurring on, (77-78) pp. 98-99 B.
- Anglesea Tp., Ont., rocks of lower division Hastings Series (66-69) E. p. 148, F. p. 164.
map of, 4 miles to the inch, (66-69) E. p. 143, F. p. 159.
granite areas of (72-73) p. 141.
dome shaped hills of diorite, (72-73) p. 152.
- Angus' Brook, Inverness Co., C., B. red sandstones of (82-84) p. 40 H.
- Angus Sta., Ont., fresh-water shells in sands of, (1863) p. 910.
- Anhydrite, in Albert Co., N.B., thickness of beds, character, (76-77) p. 394.
Goderich boring, (76-77) p. 231.
Hillsborough, Albert Co. (70-71) p. 238.
occurrence of, in New York, noted, (1863) p. 460.
- Anhydrous oxides of iron, classification of ores, (73-74) p. 193.
- Anian, straits of, discovery by Juan De Fuca of opening on west coast supposed to be, (78-79) p. 6 B.
- Anigookiwagamog Lake Hurry up Lake) slates and diorites, (75-76) p. 297.
- Animals, wild, of the Bras d'or Lakes, (76-77) p. 403.
- Animikie, name proposed by Hunt for Logan's lower group of upper copper bearing series, descriptions of rocks of, general distribution, (1863) pp. 69-70, 77.
- Anim-wa-shing, or "Dog's Cave," crystalline limestone of, (76-77) p. 207.
- Ankerite, in veins near Goldings Landing St. John River, N.B., (70-71) p. 72.
as a flux with hematite, composition of, analysis of, (73-74) pp. 219-220.
with sphatose and specular iron, (72-73) p. 27.
from Londonderry, analysis of, (72-73) p. 27.
- Annelid burrows, wood cut showing *Scolithus Canadensis*, Bill., note on occurrence in Potsdam rocks, (1863) p. 101.
- Annual Report for 1878-79, date of issue, number printed and cost, (78-80) p. 9.
- Anorthic feldspars, general description and analyses, (1863) pp. 477-480.
mean composition of, deduced from analyses, (1863) p. 590.

- Anorthite, from Hole in the Wall, Tudor Tp., Ont., analysis of, (74-75) p. 310.
Yamaska Mountain, analysis of (1863) p. 479.
- Anorthosite, reasons for applying term to rocks with lime-soda felspar, (1863) p. 22.
of Terrebonne, Que., overlies Grenville Series, (1863) p. 839.
in Tudor Tp., Ont., (76-77) p. 269.
- Anorthosite rocks, general distribution in Western Ontario, (1863) p. 46.
as building stones, note on, (1863) p. 812.
of north side Gulf St. Lawrence, reference to Seven Islands and Mingan, (1863) p. 66.
overlying Laurentian limestone in De Salaberry and Morin Tps., Que., (1863) p. 838.
of Newfoundland note on rocks of Indian Head and York Harbour, (1863) p. 66.
in Quebec Group of Potton Tp., (1863) p. 249.
- Anorthosites, flanking limestone beds near St. Jerome, Que., (1863) p. 838
of Saguenay and Lake St. John, general description (1863) p. 46.
Laurentian, general description with local occurrences, (1863) pp. 33-35.
Silurian, in Potton Tp., Que., (1863) p. 250.
Silurian, general note on, (1863) p. 602.
- Anse Cousin, Gaspé Bay, Que., greenstone dyke at, (1863) p. 402.
references to description of dyke at, (80-82) p. 32 DD.
- Anse à la Bouteille, L. Superior, note on trap rocks of vicinity, probable position in series, (1863) p. 80.
- Anse à Caron, Saguenay region, crystals of mica, (82-84) p. 9 D.
- Anse à la Tierce, Gaspé, eastern end of Hudson River area, (1863) p. 269.
- Anse à la Vieille, Bonaventure Co., Que., Quebec Group overlaid by Gaspé series at, (1863) p. 442.
rocks of coast at, (1863) p. 444.
Silurian rocks of, contact with metamorphic rocks, (80-82) p. 14 D.
- Anse aux Blancs Sablons, Str. of Belle Isle, reference to Potsdam sandstone of (1863) p. 97.
- Anse aux Crêpes to Batchewahung Bay, sandstones of, (1863) p. 83.
rocks of, (63-66) p. 134.
- Anse aux Gascon, Bay of Chaleurs, Que., rocks of coast at (1863) p. 444.
sand deposit with marine shells, (1863) p. 922.
- Anse aux Sablons, Str. of Belle Isle, rocks of, found to be similar to Red Sand-rock of Vermont, (1863) p. 287.
- Anse du Four, Que., heavy beds of sandstone, (80-82) p. 28 DD.
- Anthomyiæ of the Tertiary beds of Quesnel, B. C., (75-76) pp. 273-274.
- Anthomyia Burgessii*, Scudder, description of, from Tertiary beds of Quesnel, B.C., (75-76) p. 274.
- Anthomyia inanimata*, Scudder, description of, from Tertiary of Quesnel, B.C., (75-76) p. 273.
- Anthony Island, Q.C.Is., Indian village situated on, (78-79) p. 15 B.
- Anthracite from Cascade River, Bow River Pass, analysis of, (82-84) p. 41 M.
- Cowitchien, B.C., probably palæozoic, (76-77) p. 119.
- Cowgitz, Q. C. Is., King's vein, position of seam, (78-79) p. 73 B.
- from Dadoxylon sandstones, St. John County, N.B., (70-71) p. 229.
- in rocks of Devonian age, examples at Lepreau, N. B., and in Massachusetts and Rhode Island, (78-79) p. 14 D
- East Narrows, Skidegate Inlet, broken nature of, (78-79) p. 68 B.
- Hudson Bay, note on occurrence and analysis of, (75-76) pp. 325, 423.
- Hudson Bay, note on occurrence and quality of, on Long Island, (77-78) p. 24 C.
- Little Lepreau, N. B., analysis of, (76-77) p. 468.
- Queen Charlotte Islands, age of, analyses of, (72-73) p. 81; correspondence relative to, (72-73) pp. 84-86
- Q. C. Is., note on, with analysis of, (76-77) pp. 119-120.
- Southern N. B., note on workings at Lepreau and the Musquash deposit, (78-79) p. 25. D.
- Anthracite mine of Lepreau Basin, character and position of seam, (76-77) p. 345.
- Anthracitic carbon in Cache Creek rocks, Lower Nechacoo River, B.C., (76-77) p. 57.
bed near Blackwater Bridge, B.C., (75-76) p. 249.
- Anthracitic matter in cherts of Thunder Bay, note on occurrence of, (1863) p. 68.
- Anthraxolite in rocks of Les Islets, Que., Island of Orleans, also referred to, (1863) p. 264.
in rocks of Quebec Group, general note and description of, (1863) p. 525.
list of places in Que. where observed, volatile matter in, partial examinations, (1863) pp. 525-526.
- Anticlinal axis of rocks of Amherst Island, Magdalen Is., (79-80) p. 5 G.
in Quebec Group, reference to, (66-69) E. p. 120, F. p. 134.
- Anticlinal folds in Calciferous, Ottawa Valley, (1863) p. 116.
in coal measures of Chimney corner area, C. B., (82-84) p. 74 H.
- in Kingston series, Kingston Peninsula, N.B., (77-78) p. 4 E.
- Anticline, Bristol Tp., Que., (76-77) p. 292.
Coxheath, Lower Silurian, rocks of, (76-77) p. 435.

Anticline—Cont.

- in Cretaceous rocks of Western States and Canada, intrusions on line of, (82-84) p. 121 C.
- in Eastern Quebec, Deschambault, effect of, on sedimentary beds, Trenton, Utica and Hudson River, (1863) p. 205.
- east of Grand Manan Is., (76-77) pp. 339-340.
- in Huronian, on Little White River and Lake Huron, (1863) p. 844.
- in Kentucky, yielding oil, (63-66) p. 253.
- of red granite, Mackies Lake, Miller Tp., (72-73) p. 147.
- dislocated and compressed, east entrance to Marble Canon, B.C., diagram, (77-78) p. 90 B.
- of gneiss in Palmerston Tp., Ont., (76-77) p. 249.
- at Pownal Bay, P. E. I., evidences of, (82-84) p. 16 E.
- Wintering Hills and Hand Hills, (82-84) p. 93 C.

Anticlines, caused by subsidence from shrinkage of thicker part of underlying formations, (1863) p. 343.

- in Carboniferous of N.B., probable effect on beds of Prince Edward Island, (82-84) pp. 12-13 E.
- of economic importance, in petroleum bearing areas, (63-66) p. 9.
- in gold fields, influence of, (70-71) p. 262.
- forming Lake basins, Manitoulin Is., (63-66) p. 165.
- of Northern Addington, in the granite ridge, (72-73) p. 138.
- of Bonaventure River, Gaspé, in Silurian area, (82-84) p. 29 E.
- in Chazy Formation, lower Ottawa River, (1863) p. 130.
- in Devonian rocks of Gaspé, reference to description of, (80-82) pp. 9 and 10 DD; and (82-84) p. 22 E.
- in Gaspé, near oil springs, (63-66) p. 260.
- in Gaspé, sandstones, vicinity of Gaspé Bay, (1863) p. 398.
- in Gaspé Series, probable effect of, on exposures of limestone, (1863) p. 410.
- Georgian Bay, on N. E. coast, (76-77) p. 195.
- in Huronian of Coldbrook Series, near St. John, N.B., (70-71) p. 62.
- in Laurentian, from St. Anne de la Parade to Cape Tourmente, on St. Lawrence, (1863) p. 96.
- in Laurentian, north of Rideau Lakes, Ont. (72-73) p. 163.
- in Lower Carboniferous, at Lower Clones, N.B., (72-73) p. 188.
- of Manitoulin Island, (63-66) p. 170.
- crossing Manitoulin Island, average dip, (66-69) E. p. 110, F. p. 124.
- in North Hastings, transverse, (66-69) E. p. 148, F. p. 164.
- in gold fields of Nova Scotia, given by T. Sterry Hunt, (70-71) p. 264.

Anticline—Cont.

- in Ontario, affecting lower outcrop of Guelph Formation, (1863) p. 343.
 - Partridge Bay, islands of, (76-77) p. 197.
 - in Quebec Group, general note on, (1863) p. 237.
 - Robert's Bay, Georgian Bay, (76-77) p. 207.
 - of south-eastern N.B., in pre-Silurian rocks, with descriptions of extent of each, (77-78) pp. 3-10 D.
 - in Trenton, of Montreal Island, (1863) p. 142.
 - in Virginia, along range of oil wells, (63-66) p. 256.
 - of the Washaback, Boisdale, East Bay, and Mira Hills, C.B., (76-77) p. 404.
 - in Western Ontario oil-fields, (63-66) pp. 257-258.
- Anticosti Group, character of rocks forming mass of, (1863) p. 623.*
- estimated thickness of divisions on east and west ends of the island, (1863) p. 309.
 - in Gaspé, supposed to be in interior of, (1863) p. 444.
 - note on probable occurrence of, south of Shickshock Mts., (1863) p. 309.
 - represented in Western Ontario, included in Medina and Clinton, and Niagara Formations, descriptions of, (1863) pp. 310-336.
 - in Quebec, sections and fossils of, (1863) pp. 298-310.
- Anticosti Island, Que., height of points on, (1863) p. 223.*
- the Hudson River rocks of, section along north side, (1863) pp. 220-223.
 - note on limestone at South-west Point, (1863) p. 820.
 - marl, deposits of Marl Lake, note on, (1863) p. 766.
 - map of part of, on Fox River map sheet, issued in 1884.
 - peat deposits of, note on, (1863) pp. 783-784.
 - sections of Anticosti Group, with fossils, (1863) pp. 298-310.
 - section from Junction Cliff to Long Point, (1863) pp. 298-300.
 - section along coast from Long Point to Jupiter River, (1863) pp. 300-302.
 - section from Jupiter River to South-west Point, (1863) pp. 302-303.
 - superficial deposits of, (1863) p. 923.
- Anticosti and Mingan Islands, shallow water deposits of, at Quebec Group period, (1863) p. 297.*
- Antigonish Co., N.S., report on geology of part of, included in, (79-80) pp. 1-125 F.*
- map of part of, issued in 1884 as sheet No. 22 (Strait of Canso sheet); scale, 1 m.=1 in.
- Antimony, occurrence of, at Prince William, N.B., notes on development of mines, (82-84) p. 27 G.*
- notes on mining localities in Quebec, (80-82) pp. 3-5 GG.
 - from Shuswap Lake, B.C., (76-77) p. 149

- Antimony—glance, note on discovery of in South Ham Tp., Que., (1863) p. 876.
- Antimony mine, Fairy Lake, Ont., (76-77) p. 211.
- of Prince William, York Co., N.B., (66-69) E. p. 205, F. p. 228.
- Antimony, native, from Garden River, Rupert's Land, examined for silver, (73-74) p. 7.
- note on discovery of, in South Ham Tp., Que., (1863) p. 876.
- deposit of, in South Ham, (63-66) p. 44.
- Antimony ore, small quantities of, in Scotch Settlement, Springfield, N.B., (70-71) p. 54.
- in Southern New Brunswick, (70-71) p. 227.
- statistics of, for N.B., 1869, (71-72) p. 151.
- Antimony, oxyd of, note on discovery of, in South Ham Tp., Que., (1863) p. 876.
- Antimony, sulphide of, found on Saguenay River, Que., (82-84) p. 9 D.
- Antimony, sulphuret of, in Sheffield Tp., Ont., (63-66) p. 105.
- in Marmora, Tp. Ont., (63-66) p. 218.
- Antimonial gray copper ore, Empire mine, Madoc, assay of, (66-69) E. p. 169, F. p. 188.
- Antimonial ore from Barrie Tp., Ont., note on, (82-84) p. 12 L.
- Antler Creek, B.C., gold workings on, (76-77) p. 136.
- Antioines Creek, Palmerston, Ont., rocks at road crossing, (74-75) p. 127.
- Apalachian coal measures, relation to western and Michigan rocks, (1863) p. 18.
- Apatite, analyses of Canadian, by C. Hoffmann, (77-78) p. 1-14 H.
- analysis of, from department of Lot, France, (77-78) p. 12.
- Doctor Pit, Templeton, Que., (77-78) pp. 8 and 10 H.
- Grant mine, Buckingham, Que., (77-78) pp. 3, 4, 7, 10 H.
- Grant Mine, Buckingham Tp., (77-78) p. 7-10 H.
- lot 10 R. X, Loughborough Tp., Ont., (77-78) pp. 6 and 10 H.
- North Burgess Tp., (1863) p. 761. and (77-78) pp. 4 and 10 H.
- Ritchie mine, Portland Tp., (77-78) pp. 5 and 10 H.
- Storrington Tp., (77-78) pp. 2-3 and 10 H.
- Watts mine, Portland Tp., (77-78) pp. 6 and 10 H.
- general note on, as found in Ottawa Co., crystal form, hardness and Sp. g., (77-78) pp. 14-15 G.
- general occurrence and note on effect of on ores, association with magnetic ores, (73-74) p. 199.
- description of occurrence of, in Ontario and Quebec, localities cited, (1863) p. 460.
- in igneous rocks, character of, (77-78) p. 12 G.
- presence of iodine and bromine in (77-78) pp. 12-14 H.
- Apatite—*Cont.*
- cost of transport, (76-77) p. 307.
- extracts from T. S. Hunt's paper on industry, mining, shipment, cost, market value, &c., (82-84) pp. 24-27, J.
- first appearance of in limestone bands, Renfrew, (76-77) p. 265.
- granular green variety, N. Burgess, Ont., (73-74) p. 115.
- in Laurentian, (63-66) pp. 202-204.
- localities in S. Burgess, showing occurrence of, (70-71) p. 320.
- mode of occurrence, in Buckingham Tp., (74-75) p. 165.
- Norway, reference to papers on, (77-78) p. 2 G.
- note on market value of, use as manure, (1863) p. 759.
- note on prices obtained, destination of shipments, (82-84) pp. 22-23 J.
- openings for, map of part of N. Burgess showing, (73-74), p. 128.
- openings made by Mr. Miller, (76-77) p. 303.
- openings for, in 8th Concession of N. Burgess, lots A and 1 to 7, (73-74) pp. 110, 128.
- pyrites in, in Buckingham, Que., (76-77) p. 305.
- N. Burgess, veins of red variety on lots 9 and 10, R. V., (70-71) p. 318.
- N. Elmsley, Ont., in veins of carbonaceous lime on lot 25, R. VIII., amount shipped, (70-71) p. 320.
- in Ottawa region, report on, (76-77) pp. 301, 308.
- Ottawa and Pontiac Cos., Que., rocks holding, (76-77) p. 280.
- rust-coloured, in Buckingham, (76-77) p. 304.
- shipments of, to England, cost of freight, (76-77) p. 307.
- shipments of, from Montreal, 1882-1883, (82-84) p. 20 J.
- in Sweden, (63-66) p. 204.
- in rocks of Trout Lake, Moose River Basin, (80-82) p. 6 C.
- beds of, in Elmsley and in North and South Burgess, note on, (1863) p. 761.
- in beds, Long Lake, associated with pyroxene beds, (63-66) p. 225.
- Apatite boulders, found in N. Burgess, Ont., lot 5, R. V., (70-71) 318.
- Apatite-bearing rocks, Aux Lièvres, Que., (76-77) p. 295.
- Gatineau, Que., (76-77) p. 295.
- Lanark, Ont., geological horizon of, (74-75) p. 153.
- Apatite Crystals of, rounded, (63-66) p. 190.
- curved and rounded, (63-66) 227.
- in Calcite, 8th Con., North Burgess, (73-74) p. 111.
- large, in veins in Templeton, wood-cut showing section of vein, (77-78) p. 8 G.
- sky-blue, in Wakefield Tp., Que., (80-82) p. 12 GG.
- Apatite deposits, bedded nature of, (74-75) p. 160.
- beds or veins, review of Hunt's statements (77-78) p. 5 G.

Apatite—Cont.

- depth of, note on, (77-78) p. 12 G.
 irregular character of, section showing, (77-78) pp. 9-10 G.
 associated beds in Bedford Tp., lot 2, R. XII., (74-75) p. 159.
 Black Cape, Bay of Chaleurs, result of examination, (80-82) p. 22 D.
 North Burgess, Ont., report by H.G. Vennor, on, (73-74) p. 109-139.
 in Buckingham and Portland Tps., Que., examination by H. G. Vennor, (73-74) pp. 144-145.
 reference to N. and S. Burgess and S. Elmsley, (70-71) p. 314.
 segregated, from country rock, Emerald Mine, Que., (82-84) p. 12 J.
 worked in 1871 in Frontenac, Leeds and Lanark, (71-72) pp. 123-129.
 Frontenac, Leeds and Lanark, zone of, through, extent of, (71-72) pp. 123-124.
 note on depth of, in High Rock mines, Que., (82-84) pp. 6-7 J.
 note on mode of occurrence of, in High Rock mines, Que., (82-84) p. 8 J.
 Hull Tp., note on, (76-77) p. 308.
 Hull, Wakefield and Templeton, progress of examination by J. F. Torrance, (82-84) p. 12.
 Loughborough and Bedford Tps., Ont., (73-74) pp. 107-109.
 Norway and Canada, list of minerals associated with, (77-78) p. 13 G.
 Ottawa Co., Que., notes on, (73-74) pp. 139-146.
 Ottawa Co., Que., report by J. F. Torrance, (82-84) pp. 5-32 J.
 superficial nature of, section No. 1, at Rideau Lake, Ont., (74-75) p. 111.
 Wakefield Tp., note on, (76-77) p. 308.
 Apatite mine, Templeton, Que., note on progress in, (80-82) p. 10 GG.
 Apatite mines of North Burgess, Ont., notes on cessation of work, (74-75) pp. 108-112.
 amount shipped from lot 19, R. VI., (70-71) p. 319.
 Apatite mines in Ontario, notes on, by C. W. Willmot, (82-84) pp. 5-8 L.
 Quebec, Hull and Wakefield Tps., (82-84) pp. 16-20 L.
 notes on mines of Wakefield, Hull and Templeton Tps., Que., (80-82) pp. 8-12 GG.
 Apatite rocks, position of, Ottawa Co., (76-77) p. 301.
 Apatite veins, banded structure in, wood-cut showing, (77-78) p. 8 G.
 in Canada, not eruptive, note on, (77-78) p. 11 G.
 minerals found in, (63-66) p. 227.
 older than lead bearing veins, (63-66) p. 229.
 of Long Lake, Burgess Tp., (63-66) p. 225.
 of N. Burgess, lots 9 and 10, R. V., (63-66) p. 224.
 on lot 4 R. V. N. Burgess, list of, in two series, (70-71) pp. 316-317.

Apatite—Cont.

- in North Elmsley, lots 24-26, R. VIII., (63-66) p. 228.
 on Rideau Lake, (63-66) p. 227.
 of Ottawa Co., Que., minerals of, (77-78) pp. 1-37 G.
 examples in Portland and Templeton, (77-78) p. 6 G.
 cut by granite dykes in Templeton Tp., (77-78) p. 30 G.
 variations in composition of, (63-66) p. 227.
 wood-cuts showing branching vein and irregular veins, Templeton, (77-78) pp. 6-7 G.
Aphaenogaster longeva, Scudder, tertiary insect from Quesnel, B.C., description of, (75-76) p. 267.
 Aphidæ of Tertiary beds of Quesnel, B.C., (75-76) p. 279.
 Aphrodite, mineral resembling in fissures of pyralolite of Grenville, Que., analysis of, (1863) p. 473.
 Apohaqui, King's Co., N.B., beds of gypsum, (70-71) p. 237.
 Apophyllite found on Spar Island, L. Superior, (1863) p. 482.
 Apparitions, significance of, among Haida Indians, (78-79) p. 124 B.
 Approaches to Masset Inlet, Q.C.Is., (78-79) p. 35 B.
 Appropriation for Geological Survey, 1883, with expenditure of same, (82-84) p. 24.
 Aptychus, illustration of portion of, (76-77) p. 157.
 Arable land at Fort George, B.C., (75-76) p. 245.
 Aragonite, examples of, found in Tring Tp., Que., and at Lachine, (1863) p. 456.
 Arago Road, L'Islet Co., Que., Potsdam band, width of, (66-69) E. p. 122, F. p. 137.
 rocks exposed, (66-69) E. p. 137, F. p. 153.
Aralia, common forest shrub in B.C., general description, (71-72) p. 71.
Aranea Columbiæ, Scudder, note on specimens of eggs, referred to, (76-77) p. 463.
Arbutus Menziesii, Pursh, occurrence of, in British Columbia, (79-80) p. 177 B.
 Archambault Lake, north of Cumberland House, rocks seen on, (79-80) p. 12 C.
Archeocyathus, collected by T.C. Weston, Str. of Belle Isle, (72-73) p. 2.
 Archæological collections from British Columbia added to museum, cost of, (80-82) p. 2.
 ARCHIBALD, MR. E. P., mining operations of, in Little Glace Bay, C.B., (72-73) p. 259.
Archaster Dawsoni, Verrill, description of species, Q.C.Is., (78-79) p. 194 B.
 Archean subdivisions of, in Ont., made by Vennor, (70-71) p. 310.
Archeocyathus Atlanticus, Billings, wood cuts of, from Str. of Belle Isle, (1863) p. 283.

- Archeocyathus*, from River Ouelle, Que., referred to, (76-77) p. 434.
- Archibald Point, near Ingonish, C.B., syenite and felsite of, (82-84) p. 18 H.
- Architecture and arts of the Haida Indians, (78-79) pp. 137-149 B.
- Arctic Circle Claim, Boulder Creek, Omenica, B.C., assay of galena from, (78-79) p. 24 H. width of galena vein, (79-80) p. 110 B. analysis of galena from, (79-80) p. 111 B.
- Arctic Circle, list of plants found on Nelson River Valley, that cross the, (79-80) pp. 59-66 C.
- Arctic Current, hypothesis of an, causing glaciation in B.C., (77-78) p. 152 B.
- Arctic flora of British Columbia, note on, (79-80) p. 168 B.
- Arctic plants, crossing Arctic Circle, list of, (78-79) pp. 53-60 C. in valley of Nelson River, list of, (79-80) pp. 59-66 C.
- Arctic trout in stream near McLeod's Lake, B.C., (75-76) p. 38.
- Arden Village, Ont., dolomite band around, (74-75) p. 149.
- Ardoch P. O., Ont., junction of dolomitic band with gneiss, (72-73) p. 156.
- Area and distribution of the Laurentian System in Canada, (1863) p. 47.
- Area No. 3, Pictou coal field, trial pits, (66-69) E. p. 99, F. p. 111.
- Area of Middle and Upper Carboniferous formations in N.B., (72-73) p. 223. underlain by coal seams in N.B., (72-73) p. 224. Hudson Bay, (79-80) p. 27 C.
- Arenaceous flagstones, Pointe aux Mines, Ont., (76-77) p. 215.
- Arenaceous measures, east of Mill Road fault, Pictou, N.S., (66-69) E. p. 26, F. p. 29.
- Arenaceous shales of coal measures of Cape Breton, (74-75) pp. 195-197.
- Arendal, Norway, analysis of apatite from (77-78) p. 11 H.
- Argenteuil Seignior, Que., general note on intrusive rocks of, (1863) pp. 38-42. analysis of orthoclase from, (1863) p. 474. deposit of marl and peat, (1863) p. 765.
- Argenteuil Co., Que., map showing distribution of Laurentian in; scale, 7 m. = 1 in.; (1863) Atlas
- labradorite rocks, position of, note on, (76-77) p. 301.
- note by Vennor on position of limestone bands of, and area of labradorite rocks of, (79-80) p. 3.
- Argentiferous galena, note on occurrence of, in Eastern Townships, on Chaudière and at Moulton Hill, (1863) pp. 517-518. of Southern New Brunswick, note on, (78-79) p. 25 D.
- Argentiferous galena.—Cont.
- Nigadoo River and Elm Tree River, Restigouche Co., N.B., (80-82) pp. 21-22 D.
- Omenica, B.C., examination referred to, (76-77) p. 116.
- note on, with analysis of, (79-80) pp. 110-112 B.
- from Kootenay Lake, result of assay, obtained in 1861, (82-84) p. 38 B.
- Argillaceous limestones as forming natural cement materials, note on, (1863) p. 805.
- Argillaceous flagstones, Mica Bay, Ont., (76-77) p. 216.
- Argillaceous sandstone, Pointe aux Mines, Ont., of vicinity of, (76-77) p. 215.
- Upper Copper-bearing rocks of Lake Superior, general note on position in series, (1863) p. 68.
- Argillaceous shale of coal measures of Cape Breton, fossil plants, (74-75) pp. 195-197.
- Argillaceous slate, Echo River, Ont., (76-77) p. 210.
- Rankin copper mine, Root River, Ont., (76-77) p. 212.
- Argillites and limestones of Section Cove, Burnaby Is., Q.C.Is., (78-79) p. 55 B.
- Argillites of Cambro-Silurian of Canterbury Parish, N.B., (82-84) pp. 18-19 G.
- Huronian, suitability for roofing slates, note on, (1863) p. 830.
- Lower Silurian, analyses of, (1863) p. 600.
- of McCodrum Brook, C.B., (76-77) p. 437.
- of Coxheath anticline, C.B., (76-77) p. 435.
- Upper Silurian of Charlotte Co., N.B., associated rocks, (76-77) p. 322.
- analysis of, from Westbury Tp., Que., (1863) p. 617.
- holding anthracite at Cowgitz coal mine, Q.C.Is., (78-79) p. 67 B.
- with orthoclase at St. Francis copper mine, Cleveland Tp., Que., (1863) p. 606.
- of Klun-Kwoi Bay, Q.C.Is., fossils of, (78-79) p. 58 B.
- for roofing slate, note on, with localities of occurrence, (1863) p. 830.
- coast south of Carpenter Bay, Q. C. Is. (78-79) p. 51 B.
- Skeena River, near Forks, (79-80) p. 102 B.
- Argillite series, structure of, in western Charlotte Co., N.B., (76-77) p. 331.
- their age, (76-77) p. 332.
- Argyle Mine, Clear Water Bay, Lake of the Woods, description of, criticism of outlay on machinery, (82-84) pp. 18-19 K.
- assays of ore from, for gold and silver, (82-84) p. 9 MM.
- Arichat felsites, description of exposures in Richmond Co., N.S., near Arichat, (79-80) pp. 4-6 F.
- Arichat, Madame Is., N.S., felsites of vicinity, (79-80) pp. 4-6 F.
- dark shales, north of Devonian rocks of vicinity, (79-80) p. 37 F.
- note on limestone quarries in neighbourhood, (79-80) p. 124 F.

- Arichat Harbour, N.S., outcrop of Carboniferous limestone with gypsum, (79-80) p. 55 F. galena of, referred to, (79-80) p. 123 F.
- Arichat Head, C. B., dark shales of, (79-80) p. 37 F.
- Arionellus cylindricus*, Billings, wood-cut of head, (1863) p. 237.
- Arionellus subclavatus*, Billings, wood-cut of glabella, (1863) p. 237.
- Arisaig, N.S., Silurian of, note by Billings, (72-73) p. 3. fossils found at, (76-77) p. 434.
- Arkansas, note on pre-Cambrian rocks of, (1863) p. 66.
- Arkona, Ont., section in well, (63-66) p. 248.
- Armour formerly used by Haida Indians, Q. C. Is., (78-79) p. 106 B.
- Armstrong's Corners, Petersburg, Queen's Co., N.B., Huronian area, (70-71) p. 65.
- Arnott's Farm, Elzevir Tp., soil of, (72-73) p. 141.
- Arnprior marble, note on character of, price, (1863) p. 823.
- Arnprior, Ont., limestone or marble of, extent and character, (74-75) p. 144. change in strike of rocks at, (76-77) p. 245. strike of limestone at, (76-77) p. 246.
- Aroostook River, N.B., falls on, drift dammed channel at, (82-84) p. 14 GG. sections of terraces at mouth of, in valley of St. John, (82-84) p. 33 GG. section of terrace near St. John River, (82-84) p. 41 GG.
- Arragonite, occurrence of, at Dipper Harbour, N.B., (70-71) p. 237.
- Arrival of vessels at Moose Factory, from 1735 to 1880, table showing, (79-80) pp. 90-92 C. at York Factory, from 1789 to 1880, (79-80) pp. 84-88 C.
- Arrow head, found on Assiniboine River, (74-75) p. 50.
- Arrow Lake, Thunder Bay district, botryoidal red hematite, (66-69) E. p. 358, F. p. 396.
- Arrow-wood Creek, Bow River, section of Laramie, fossils, (82-84) pp. 84-85 C.
- Arsenical pyrites, note on localities of occurrence, (1863) p. 505. in tailings of gold mines, suggestions for extracting arsenic, (70-71) pp. 279-280. reported at Eagle Head, Gabarus Bay, C. B., (77-78) p. 28 F. of Moore's Lake, N.B., (76-77) p. 329.
- Arsenic, suggestions for extracting from pyrite of gold tailing, (70-71) p. 280.
- Arsenic ores of, note on composition of, localities yielding, (1863) p. 505.
- Artemise Brook, Cheticamp River, C. B., pre-Cambrian rocks of, (82-84) p. 22 H.
- Artemisia gravel, description and distribution of, (1863) pp. 908-909.
- Artemisia Tp., Ont., indentation in Clinton, outcrop runs up Beaver River to centre of, (1863) p. 315. notes on exposures of Niagara Formation in, (1863) p. 328. deposit of calcareous tufa referred to, (1863) p. 804. gravel deposit of, (1863) p. 908.
- Arthabaska, Que., anticlinal in Quebec Group at, referred to (1863) p. 238.
- Arthur Tp., Ont., clays and surface deposits of, (1863) p. 900.
- Artificial manures, note on use of, (74-75) p. 308.
- Artists employed reproducing fossils, &c., for Decades of Can. Organic Remains and Geol. of Canada, 1863, (1863) p. xv.
- Arts and architecture of Haida Indians, (78-79) pp. 137-149 B.
- Asaphus Canadensis*, Chapman, wood-cut of, (1863) p. 204.
- Asaphus canalis*, large specimen recorded from Aylmer, Que., (1863) p. 125.
- Asphus megistos*, Locke, wood-cut of, (1863) p. 184.
- Asaphus platycephalus*, Stokes, wood-cuts of, (1863) pp. 184, 219.
- Asaphus platycephalus*, discovery of legs of, reference to paper by E. Billings, (69-70) p. 11. Summ.
- Asbestos, general note on mode of occurrence and constituent (1863) p. 473. at Sheldon's Point, St. John Co., N. B., (70-71) p. 238. occurrence of, near Little Whale River, (77-78) p. 23 C. notes on mines in Quebec, (80-82) pp. 6-8 GG.
- Ascoceras Canadensis*, Billings, wood-cut of, (1863) p. 218.
- Ascot mine, near Sherbrooke, Que., workings, dip of beds, character of ore, (1863) p. 732. reference to description, (63-66) p. 40. situation of, depth of shaft, character of ore, (80-82) p. 2 GG.
- Ascot gold mines, Ascot Tp., Que., situation of, (63-66) p. 64.
- Ascott Tp., Que., copper ore in slates of, (1863) p. 252. note on gold and silver in copper ores of, (1863) p. 517. note on galena localities in, (1863) p. 691. localities yielding copper ores, (1863) p. 732. reference to deposit of iron pyrites, (1863) p. 748. copper localities, (63-66) pp. 40-43 and 305. magnesian bands in Sillery, green dolomite and red jasper, (63-66) p. 40. examinations for gold by A. Michel, (63-66) p. 63. succession of clays and gravels similar to Gilbert River, (63-66) p. 65.

- A-se-guang, abandoned Indian village, Q. C. Is., site of, (78-79) p. 165 B.
- ASHBURNER, Mr., referred to, (76-77) p. 238.
- Ash, note on northern limits of species of, (79-80) pp. 48-49 C.
- Ash leaved maple, note on northern limit of, in Canada, (79-80) p. 48 C.
- Ash beds, indurated volcanic, description of, from Itasyouco River, B. C., (76-77) p. 66.
purplish volcanic, on Kes-la-chick River, B. C. (76-77) p. 70.
Portage Lake, Mich., (63-66) p. 149.
- Ash in British American and Springhill coals, comparisons, (66-69) E. p. 444, F. p. 496.
in Pictou Coals, practical trial on Allan Line, (66-69) E. p. 425, F. p. 473.
coals from Vancouver Island, (76-77) p. 471.
graphite, remarks on, (76-77) p. 498.
lignite of Roche Percée, Souris River, N. W. T., analyses, (79-80) pp. 6-7 H.
peat, analysis of, from St. Dominique, Que., (1863) p. 642.
- Ashfield River, Bruce Co., Ont., exposures of sandstone in Corniferous (?), (1863) p. 375.
- Ash Inlet, Hudson Strait, description of rocks and general features, glacial striae, (82-84) pp. 21-22 DD.
eskimo report of graphite mica and iron pyrites, near, on Big Island, (82-84) p. 24 DD.
list of marine invertebrates collected at, (82-84) pp. 58-60 DD.
- Ashtonoulou River, Similkameen River, B. C., rocks at mouth of, (77-78) p. 86 B.
- Ashtnoulou Valley, stratified rocks and granite mass in, (82-84) pp. 14-15 B.
- Ashtnoulou Mountains, B. C., rocks of, (82-84) p. 15 B.
- Ashuapmouchouan Lake, Que., vegetation, fruit, height of, (70-71) p. 297.
- Ashuapmouchouan River, Que., general description, surveys of, (70-71) p. 284.
Laurentian rocks of, (70-71) pp. 287-288.
character of land in valley of, (70-71) pp. 296-297.
timber, vegetation, fruit, &c., (70-71) p. 297.
- Askatchie Lake, St. John Co., Que., rocks of, (70-71) p. 290.
- Aspen poplar in British Columbia, note on (79-80) p. 177 B.
- Aspen, northward extension of, on Nelson River, (78-79) p. 43 C.
note on range of, in Canada, (79-80) p. 45 C.
- Asphalt, source of, proportions employed in manufacturing pavements, (1863) p. 790.
banks of Athabasca River, Drowned Rapid, (82-84) p. 15. CC.
Athabasca River, general discussion on economic value and use, (82-84) pp. 32-35 CC.
in rocks of Kincardine, Ont. (1863) p. 522.
- Asphalt—*Cont.*
from petroleum, formed in Enniskillen, (1863) p. 524.
- Aspy Bay, N.S., L. Carboniferous limestone series, (82-84) p. 52 H.
Map Sheet, issued 1884, scale 1m=1 in.
- Aspy Harbour, N.S., note on character of, (82-84) p. 82 H.
- Assay of ores and minerals, *see* Part II., p. 21, also under name of mineral and locality of occurrence, in General Index.
process used by T. S. Hunt, for gold assays, (63-66) pp. 81-82.
- Assean Lake, Nelson River, description of, (78-79) p. 14 C.
- Assean River, Split Lake, position of mouth of, (78-79) p. 27 C.
- Assiniboine Bluff, North Thompson River, description of, height of, (71-72) p. 26.
- Assiniboine Valley, at Fort Ellice, depth and width as given by H.Y. Hind, (73-74) p. 23.
Selwyn's Journal describing, (73-74) p. 25.
upper part ill-defined, (74-75) p. 29.
soil at Fort Pelly, (74-75) p. 30.
valley of, near Shell River, Man., (74-75) p. 58.
- Assiniboine River, Man., descent of, from Fort Pelly, by Dr. Bell, character of, rocks *in situ*, (74-75) p. 35.
shales and sandstones of Cretaceous age, reported by H. Y. Hind, (73-74) p. 83.
character of valley and tributaries, (74-75) p. 30.
abundance of Huronian boulders in drift, (74-75) p. 42.
antiquity of valley, mode of formation of, (74-75) pp. 46-47.
neozoic deposits of, (74-75) p. 63.
analysis of water taken in 1873, (78-79) p. 9 C.
report on examinations of, (78-79) pp. 7-12 C.
geological character of area drained by, (78-79) pp. 9-10 H.
analysis of water collected in Oct., 1879, (78-79) pp. 10-11 H.
- Assumption Co., Que., mineral spring at Point-du-Jour, (1863) p. 533.
- Assumption River, Que., exposures of Trenton Group, near Industry, (1863) p. 148.
to St. Maurice River, distribution of gneisses, syenite and diorites, (79-80) pp. 4-5.
- Assumption Seigniory, Que., peat deposits in, (1863) p. 781.
- Astarte carlinioides*, Whiteaves, description and figure of, (73-74) p. 267.
- Astarte Vancouverensis*, Whiteaves, description and figure of, (73-74) p. 267.
- Astarte flagilis*, Meek and Hayden, note on specimen from Itasyouco River, B. C., (76-77) p. 155.

- Astarte Laurentina*, Lyell, wood-cut of left valve, (1863) p. 963.
- Astarte ventricosa*, Meek, note on specimens from Iltaasyouco River, (76-77) p. 155.
- Asterias epichlora*, Brandt, noted on specimens from Q.C.Is., (78-79) p. 192 B.
- Athabasca, McKenzie region, explorations of Dr. R. Bell during 1882, (80-82) pp. 14-15
- Athabasca Lake, Laurentian rocks of, (75-76) p. 90.
- Note on fish and game, (75-76) pp. 165-166.
- Athabasca Landing to Edmonton, description of country by Dr. G. M. Dawson, (79-80) pp. 86-88 B.
- distance by trail, (79-80) p. 86 B.
- Laurentian and quartzite boulders, current action, (79-80) p. 141 B.
- map of trail on sheet III., scale, 8 m. = 1 in., accompanying Part B, (79-80).
- Athabasca Landing, character of country near, (79-80) p. 95 B.
- Athabasca oil region, suggestions as to transportation, (82-84) p. 34 CC.
- Athabasca River, Sir A. McKenzie, quoted, description of tar springs below forks of, (73-74) p. 22.
- description by Sir John Richardson, also referred to, (73-74) p. 22.
- geological and topographical notes by John Macoun, (75-76) pp. 90-95.
- the delta, at mouth of, (75-76) p. 91.
- the tar sands and tar springs, (75-76) pp. 92-93.
- notes on Devonian fossils collected by J. Macoun, (75-76) pp. 104-105.
- botanical notes by Prof. J. Macoun, (75-76) pp. 167-172.
- first frost, Sept. 19th, (75-76) p. 171.
- Indian names for, (79-80) p. 79 B.
- at Drift Pile Camp, illustration showing view down, (79-80) face p. 80 B.
- from Drift Pile Camp to Lesser Slave River, description of, (79-80) pp. 79-82 B.
- from Lesser Slave River to the Landing, character of river as a railway route, (79-80) pp. 84-85 B.
- from the Landing to Rivière la Biche, description of, (79-80) pp. 95-96 B.
- upper sandstones (Laramie) exposed on, (79-80) p. 126 B.
- latitude observations taken by G. M. Dawson in 1879, (79-80) pp. 161-162 B.
- map of part of, from Drift Pile Camp to La Biche River, scale, 8 m. = 1 in., Sheet III. accompanying Part B (79-80)
- above Fort Assiniboine, analysis of lignite from, (79-80) pp. 10-11 H.
- the bituminous sand rock of, mode of occurrence, analysis and economic uses, (80-82) pp. 3-5 H.
- track survey, made by Cochrane, referred to (80-82) p. 5.
- origin of petroleum determined by Dr. R. Bell, (80-82) p. 15.
- Athabasca River—*Cont.*
- report on part of basin of, by Dr. R. Bell, with map, scale, 8 m. = 1 in., (82-84) pp. 5-37 CC.
- from River La Biche to House River, geological notes on, (82-84) pp. 7-9 CC.
- general description of, depth, geology of banks, sections, (82-84) pp. 7-24 CC.
- illustration showing Grand Rapid, (82-84) face p. 10 CC.
- character of valley below Fort McMurray, (82-84) p. 19 CC.
- note on origin of valley, and drift deposits in, (82-84) p. 30 CC.
- near Fort Assiniboine, analysis of lignite from, (82-84) pp. 23-24 M.
- catalogue of plants collected on, (75-76) pp. 186-232.
- Athabasca Valley at Fort Assiniboine, depth and width of, (79-80) p. 94 B.
- Athyris Anticostensis*, Billings, wood-cut of, (1863) p. 212.
- Athyris borealis*, Billings, wood-cut of, (1863) p. 212.
- Athyris Clara*, Billings, wood-cuts of views of, (1863) p. 373.
- Athyris crassirostra*, Hall, wood-cut of, (1863) p. 317.
- Athyris cylindrica*, Hall, wood-cut of, (1863) p. 317.
- Athyris Headi*, Billings, wood-cuts of, (1863) p. 212.
- Athyris Maia*, Billings, wood-cuts of, (1863) p. 373.
- Athyris naviformis*, Hall, wood-cut of, (1863) p. 317.
- Athyris nitida*, Hall, wood-cut of, (1863) p. 317.
- Athyris umbonata*, Billings, wood-cuts of views of, (1863) p. 317.
- Athyris unisulcata*, Conrad, wood-cuts of, (1863) p. 373.
- A-tli Inlet, Lyell Island, Q.C.Is., appearance of, (78-79) p. 25 B.
- coarse agglomerate, (78-79) p. 60 B.
- Atna Mountains, B.C., height of, (79-80) p. 25 B.
- Atrypa hemispherica*, Sowerby, wood-cut of, (1863) p. 318.
- Atrypa plano-convexa*, Hall, wood-cut of, (1863) p. 318.
- Atrypa reticularis*, Linnæus, wood-cut of, (1863) pp. 318 and 384.
- notes on specimens from Clearwater River, (75-76) p. 106.
- ATTRILL, H., mining of rock salt contemplated in Ont., (74-75) p. 279.
- exploration for salt by, in Goderich region, Ont., report on by T. S. Hunt, (76-77) pp. 221-243.
- Attitude of strata in Southern New Brunswick, (70-71) p. 178.
- of rocks of southern Alberta, (80-82) p. 2 B.

- Atunatche River, Pine Pass, B.C., elevation at mouth of, (79-80) p. 36 B.
- Atunatche Valley, Pine Pass, illustration showing view down, (79-80) frontispiece to Pt. B.
rise of, width of, (79-80) p. 37 B.
note on limestones of, brecciated layers in, (79-80) p. 109 B.
- Aubert-Gaillon Seigniory, Que., manganese ores exposed on Chaudière River, (1863) p. 752.
specimen of quartz from, (63-66) p. 74.
assay of quartz from, (63-66) p. 84.
- Aubin-Delisle Seigniory, Que., quartz from, (63-66) p. 74.
assay of one sample of quartz from, (63-66) p. 84.
- Au Coin Brook, Cheticamp River, N.S., pre-Cambrian rocks of, (82-84) pp. 22-23 H.
gypsum beds in, (82-84) p. 52 H.
- Augen-gneiss, rocks resembling, in Elzevir and Kaladar, Ont., (72-73) p. 144.
- Augite, description of, varieties, with analyses and localities of occurrence, (1863) pp. 467-468.
note on occurrence of, in dolerite rocks, analysis of Montreal specimens, (1863) p. 468.
- Augmentation of Grenville, Que., details of further work on tracing of dolerite dykes in, (1863) pp. 839-840.
analysis of vein-graphite from, (76-77) pp. 502-503.
- Augmentation of Ham Tp., Que., see South Ham.
- Augmentation of St. Michel, Que., microscopic structure of felspathic grauwacke or sandstone, (80-82) p. 22 A.
- Augusta Tp., Ont., section of Calciferous Formation near Maitland, (1863) p. 111.
note on sand deposits of, (1863) p. 924.
- Auld Lake, Guysborough Co., N.S., contact of Devonian and pre-Cambrian at, (79-80) p. 43 F.
- Aulopora cornuta*, Billings, wood-cuts of, (1863) p. 366.
- Aulopora umbellifera*, Billings, wood-cuts of, (1863) p. 366.
- Auriferous belt in British Columbia, extent of, (76-77) p. 104.
- Auriferous blende, note on Moulton Hill and Chaudière ores, (1863) p. 518.
- Auriferous deposits of Cape Wolf and McWilliam Cove, Prince Edward Island, note on, (82-84) pp. 18-19 E.
- Auriferous drift of Eastern Canada, note on, (1863) p. 740.
of Notre Dame Mountains, Que., note on, (1863) p. 929.
- Auriferous gravels underlying boulder clay, (63-66) pp. 7 and 87.
in southern B.C., list of workings, (82-84) 35 B.
- Auriferous pyrites, note on gold and silver in copper reduced from pyrites in Ascot Tp., Que., (1863) p. 517.
- Aurora spring, Point-du-Jour, Assumption, Que., character of water, (1863) p. 533.
- AUSTIN, G. F., discovered iron in Templeton and Hull, Que., (63-66) p. 22.
information from, on rocks of Mattawa River, (66-69) E. p. 330, F. p. 364.
- Austin's Mills, Bosanquet Tp., Ont., exposure of shales at base of Hamilton formation, (1863) p. 385.
- Australia, age of gold alluvions, (63-66) p. 88.
work of stamp mills compared with Nova Scotia, (70-71) pp. 280-281.
- Australia Ranch, Quesnel Mouth, B.C., yield of grain, (71-72) p. 68.
- Aux Vases River, Que., limonite deposits of, (82-84) p. 16 D.
- Aventurine felspar, description of, occurrences noted, analysis of, (1863) p. 475.
- Average of analyses of coal from Vancouver Is., (72-73) p. 79.
- Avicula demissa*, Conrad, wood-cut of, (1863) p. 215.
- Avicula elliptica*, Hall, wood-cut of, (1863) p. 170.
- Avicula Hermione*, Billings, wood-cut of, (1863) p. 170.
- Avicula naviformis*, Conrad, wood-cut of left valve, (1863) p. 958.
- Awaganasees River, Patapedia River, Gaspé series on, (1863) p. 417.
- A-wun River, Masset Inlet, tributary of Masset River, (78-79) p. 37 B.
- Axes manufactured at St. Maurice, Que., noted, (73-74) p. 248.
- Axinite recorded from Hawkesbury, Ont., (1863) p. 493.
discovered *in situ*, near Little Whale River, Hudson Bay, (77-78) p. 22 C.
- Aylmer, Que., the Chazy sandstone at, large specimen of *Asaphus canalis* found in, (1863) p. 125.
- Aylmer Lake, Wolfe Co., Que., height and area of, (1863) p. 4.
rocks of, Quebec group, and Gaspé Series exposed on, (1863) pp. 429-430.
- Ayton, Grey Co., Ont., exposures of Onondaga dolomitic shales, (1863) p. 351.
- Azoic rocks of the North-west, general note on Bigsby's observations and Owen's works, west of Lake Superior, (1863) p. 65.
of Arkansas, note on, Magnet Cove minerals, (1863) p. 66
of Newfoundland, note on rocks probably Huronian, (1863) p. 66.
exposures of, near St. Paul's Bay, (1863) p. 878.
- Azouzetta Lake, or Summit Lake, Pine Pass, description of, (79-80) p. 37 B.

- Babine Lake Valley, B. C., forest trees, (79-80) p. 23 B.
- Babine Lake, B.C., general description, Indian names of, (79-80) pp. 25-28 B.
height of, (79-80) p. 26 B.
Indian village on, (79-80) 26 B.
note on salmon fishery of, (79-80) p. 26 B.
note on climate of valley of, (79-80) p. 26 B.
number of Indians residing near, (79-80) p. 30 B.
impure coal found on streams, near, (79-80) p. 104 B.
Cretaceous and Tertiary rocks of, (79-80) p. 106 B.
terraces at north end, (79-80) p. 137 B.
direction of glacial striation, (79-80) p. 138 B.
latitude observations taken at, (79-80) p. 157 B.
- Babine Lake and River, B.C., map of, on scale 8 miles=1 in., sheet No. 1., accompanying, (79-80) part B.
- Babine Mountains, B. C., note on height and situation, (79-80) p. 24 B.
glaciation in, high terraces, (79-80) p. 137 B.
- Babine Portage, B. C., general physical description for route from Skeena Forks to Babine Lake, (79-80) pp. 21-23 B.
note on the rocks of, (79-80) p. 103 B.
- Babine Range, B.C., sketch showing outline of, from Skeena Forks, (79-80) face p. 114 B.
Ne-tal-tzal Mountains, sketch showing, (79-80) face, p. 114 B.
- Babingtonite, occurrence of, in New York and Norway, (63-66) p. 207.
- Back's Grayling, caught in stream near McLeods Lake, B.C., (75-76) p. 38.
- Back Lake, extension of Oxford Lake, (77-78) p. 5 CC.
- Back Mountain, Stewarts Lake, B.C., red rocks of, (75-76) p. 78.
- Back Pit seam, Glace Bay, N.S., section on north shore, (74-75) p. 219.
section on coast, (74-75) p. 214.
section from Engine Pit, Caledonia Mine, (74-75) p. 217.
- Back Pit Seam, Glace Bay, N.S., section on north shore, (74-75) p. 219.
- Bachewanung Bay, Lake Superior, note on Huronian area, syenitic dyke in, (1863) p. 63.
stratified amygdaloidal trap resting on gneiss, (1863) p. 83.
sandstones of vicinity, (1863) p. 83.
note on copper ores of, (1863) p. 700.
occurrence of manganite at, (1863) p. 751.
map of, 8 miles to 1 in., (1863) Atlas.
description of Laurentian rocks at, (63-66) p. 117.
occurrence of hematite and jasper, description of, (63-66) p. 130.
red sandstone and conglomerate, (63-66) p. 135.
- Bachewanung Bay to Michipicoten River, Lake Superior, geology of coast, (76-77) pp. 213, 220.
- Bachewanung River, red clay on, (1863) p. 905.
- Bacon Pit, lot 3, R. I, Portland Tp., Que., work done on apatite deposit at, (82-84) p. 13 J.
- Baddeck, N.S., coal near, (76-77) p. 454.
- Baddeck glens, N.S. note on scenery of, (82-84) p. 85 H.
- Baddeck Hills, C.B., Laurentian rocks of, felsites of, (76-77) p. 424.
- Baddeck River, N.S., pre-Cambrian rocks of the north branch, (82-84) p. 12 H.
age of valley, (82-84) p. 50 H.
note on general character of, (82-84) p. 81 H.
note on boring for oil, (82-84) p. 90 H.
- Baddeck Bay, Inverness Co., N.S., conglomerate of high land east of, (82-84) p. 41 H.
gypsum quarries referred to, (82-84) p. 50 H.
- Baddeck map sheet, N.S., issued 1884, scale 1 m.=1 in.
- BADDELEY, MAJOR-GEN., reference to work on Canadian Geology, (1863) p. xi.
discoverer of gold in Chaudière Valley, Que., (1863) p. 518.
- Bad Heart River, Smoky River, size of, depth of valley, (79-80) p. 53 B.
- Bad Lands, mode of formation of, (79-80) p. 32 A.
south of Woody Mountain, N.W.T., sections, (79-80) p. 32 A.
wood-cut showing effect of combustion of lignites, (79-80) face p. 32 A.
diagrammatic section showing junction of Cretaceous and Tertiary, (79-80) p. 32 A.
- Bad Land hills, Bow River, coaly zone in Belly River series, fossils of, (82-84) pp. 91-92 C.
- Bag Harbour, Burnaby Str., Q.C.Is., situation and size of, (78-79) p. 19 B.
- Bagot Tp., Renfrew, Ont., lot 13, R. VI., analysis of magnetite from, (80-82) p. 8 H.
- Bagot Tp., Chicoutimi Co., Que., outlier of Cambro-Silurian, (82-84) p. 15 D.
- BAILEY, PROF. L. W., note by Selwyn on work of, in N. B. in 1869, (69-70) p. 7. Summ.
summary of work for 1870 in Southern New Brunswick, (70-71) p. 2
Devonian plants, obtained from N.B., collected by, (70-71) p. 10.
letter of transmittal for report by Bailey and Mathew on Southern New Brunswick, (70-71) pp. 13-14.
note on exploration in Northern New Brunswick in 1864, (70-71) p. 24.
examination, of mining industries of New Brunswick for 1864, note on, (70-71) p. 24.
report of progress of exploration in New Brunswick for 1871, (71-72) pp. 142-145.
fossils added to collection in Museum, (72-73) p. 2

BAILEY—*Cont.*

- letter transmitting report on geology of Southern New Brunswick for 1875, (75-76) pp. 348-349.
- work in New Brunswick, for 1876, (76-77) p. 4
- references to work of, (76-77) pp. 327, 339.
- report on the Lower Carboniferous Formation of Albert County, N.B., (76-77) pp. 351-401.
- résumé of field work, and assistants for 1877 and 1878, letter transmitting report (77-78) p. 1 DD.
- report on pre-Silurian and Primordial Silurian rocks of St. John and King's Cos., N.B., (77-78) pp. 1-34 DD.
- with Matthew and Ellis, report and résumé of geology of southern New Brunswick, (78-79) pp. 1-27 D.
- progress of investigations in New Brunswick in 1883, (82-84) pp. 13-14.
- letter transmitting report and map on geology of portions of York and Carleton Cos., N.B., (82-84) p. 3 G.
- report on explorations and surveys in portions of York and Carleton Cos., N.B., with map, scale, 4 m. = 1 in., (82-84) pp. 5-31 G.
- BAILEY AND ELLS, summary of work for summer of 1873, (73-74) p. 8.
- BAILEY AND MATTHEW, work of, in Southern New Brunswick, for 1868, (68-69) p. 7 Summ.
- acknowledgments for assistance in field work, (70-71) p. 14.
- instructions received from Sir W. E. Logan in 1868, (70-71) p. 14.
- report on geology of Southern New Brunswick, (70-71) pp. 15-240.
- summary report of work done in 1874 in New Brunswick, (74-75) pp. 84-89.
- summary of work for 1879, (78-79) p. 4.
- BAILEY, MATTHEW AND ELLS, report on the Carboniferous Formations of New Brunswick, (72-73) pp. 180-230.
- report on pre-Carboniferous of Queen's and Sunbury Counties, New Brunswick, (75-76) pp. 350-368.
- BAILEY, MATTHEW AND HARTT, explorations in 1865, Southern New Brunswick, (70-71) p. 25.
- BAILEY, JOSEPH, work by, as assistant to R. Chalmers for 1883, (82-84) p. 5 GG.
- Baileys Crossing, Charlotte Co., N.E., diorites and syenites, (70-71) p. 51.
- Baillie Settlement, Charlotte Co., N.B., upper series of pre-Carboniferous, pale argillite series, (70-71) p. 198.
- Baldwin copper mines on Nipisiguit River, N.B., character of beds at, (79-80) p. 26 D.
- Baldwin iron mine, Hull, Que., reference to, (76-77) p. 296.
- small quantity of pyrite with magnetite at, (73-74) p. 203.
- Bald Hill, Wickham, N.B., note on rocks of, (75-76) p. 361.

- Bald Mountain, Victoria Co., N.B., height of, massive quartzite, (66-69) E. p. 203, F. p. 225.
- intrusive granites of, (70-71) p. 53.
- height of granite ridge terminating in, (70-71) p. 189.
- Nerepis Range of New Brunswick, upward transportation of boulders seen on, (77-78) p. 3 EE.
- Nipisiguit River, N.B., illustration showing, (79-80) face p. 35 D
- gneisses of, (79-80) p. 31 D.
- Bald Mountain Lake, N.B., junction of Laurentian and intrusive granite on, (70-71) p. 189.
- Baleine Cove, N.S., traces of Carboniferous sandstone at (77-78) p. 23 F.
- Ballam Head, West Bay, N.S., pre-Cambrian outlier south of, outcrops of felsite, (79-80) p. 8 F.
- Ballinae Islands, Str. of Georgia, B.C., note by Billings on fossils collected at, list of species and age of beds, (73-74) p. 98.
- section of crystalline rocks, (73-74) p. 98.
- Ball Mountain, York Co., N.B., eruptive rocks of, (66-69) E. p. 180, F. p. 198.
- Balmoral road, Restigouche Co., N.B., exposures of Silurian on, (79-80) p. 21 D.
- Balrath mine, Melbourne, Que., workings at, (1863) p. 723.
- referred to, (63-66) p. 38.
- Balsam fir, note on occurrence of, in Nelson River Valley and along Albany River, (78-79) p. 42 C.
- note on northern limit of, in Canada, (79-80) p. 46 C.
- distribution of, in British Columbia, (79-80) 172 B.
- Balsam Lake, Bexley Tp., Victoria Co., Ont., height of, (1863) p. 11.
- the Trenton Group, exposed on, (1863) p. 190.
- fossils of Trenton Group at falls at outlet of, (1863) p. 191.
- molybdenite reported near, (1863) p. 503.
- mode of occurrence of molybdenite at, (63-66) p. 218.
- Balsam poplar, occurrence of, on west side of Hudson Bay, (78-79) p. 43 C.
- note on northward range of, in Canada, (79-80) p. 45 C.
- Baltimorite, variety of serpentine, note on, (1863) p. 473.
- Baltimore oil-shales, in Albert Co., N.B., (76-77) p. 364.
- Baltimore shales, Forsyths Brook, section of Lower Carboniferous rocks, (76-77) p. 364.
- diagrammatic section of, (76-77) face p. 356.
- Banded apatite, occurrence of, at Grant pit, Emerald mine, Que., (82-84) p. 12 J.
- Banded iron-ores of Michigan, note on, (63-66) p. 130.
- Banded limestone of Lanark, Ont., general description and analysis of, (74-75) p. 141.

- Banded limestone of Lanark—*Cont.*
detailed description, thickness, etc., of, (74-75) pp. 143-146.
Arnprior, extent and character of, (74-75) p. 144.
Ramsay and Lanark Tps., Ont., descriptions of, (74-75) pp. 313-314.
- Banded trachyte, near Ain River, Masset Inlet, B.C., note on, (78-79) p. 88 B.
- Banded vein of apatite in Templeton, Que., at Mud Bay, wood-cuts showing, (77-78) pp. 8-9 G.
- Banded slates of Goulais Bay, Ont., (63-66) p. 126.
- Bands of crystalline limestone in vicinity of Victoria, B.C., (71-72) p. 93.
in Frontenac, Leeds and Lanark, (72-73) p. 160.
on Georgian Bay, (76-77) pp. 203-207.
the Burton band, (76-77) p. 203.
the Parry Sound band, (76-77) pp. 203-206.
the Nipissing Road band, (76-77) p. 206.
the Roberts Bay band, (76-77) p. 207.
the Lake Tallon band, (76-77) p. 207.
- Banff limestones, *see* also Fossil Point, Peace River, Stewart's Lake and Fort McLeod limestones, (75-76) p. 80.
- Banksian pine, notes on northern limit of, localities where found, (78-79) p. 42 C.
note on range of species in Canada, (79-80) p. 46 C.
- Banks of the Lower Nelson River, note on, (78-79) p. 23 C.
- Bannockburn, Ont., slates and quartzite in vicinity of, (66-69) E. p. 156, F. p. 173.
- Barasois Brook, Victoria County, N. S., metalliferous veins of, (76-77) p. 452.
- Barasois coal seam, east of Low Point, N. S., section, (74-75) p. 224.
- Barasois Mines, C. B., location of, seams mined, (72-73) p. 251.
thickness of seam and quality of coal, (72-73) p. 252.
operations of 1874, (74-75) p. 230.
- Barasois Pond, St. Andrew Chan., N. S., argillites in brook, and at mill, (75-76) pp. 391-392.
- Barasois River, Victoria Co., N. S., pre-Cambrian rocks of, (82-84) pp. 13-14 H.
further explorations on galena of, (82-84) p. 94 H.
- Barasois, N. S., percentage of iron in clay iron-stone, (73-74) p. 242.
- Barbers Lake, Dalhousie Tp., Ont., blotched diorites, (74-75) p. 145.
- Barbers mine, Hull Tp., apatite deposit, (82-84) p. 17 L.
- Barbue River, Que., Sillery rocks on, (1863) p. 243.
note on anticline in Trenton rocks, probable Hudson River rocks east of, (1863) p. 273.
- Barford Tp., Que., exposure of limestone in, (1863) p. 433.
granite, intrusive masses in, (1863) p. 434.
native copper and copper ores in quartz veins, (1863) p. 437.
magnetic iron pyrites reported, (1863) p. 514.
copper ores of, localities for, (1863) p. 734.
granites of, as building stones, note on, (1863) p. 810.
- Baring Falls on St. Croix River, N. B., Laurentian rocks of, (70-71) p. 49.
- Barite veins near apatite veins, Ottawa Co., note on, (77-78) p. 37 G.
- Barite in Templeton, Que., locality of occurrence, (80-82) p. 12 G G.
- Barkerville, B. C., granites overlaid by Cache Creek Group, (71-72) p. 65.
gold claims near, (76-77) p. 112.
- Barks and roots formerly used by Haida Indians for food, (78-79) p. 114 B.
- BARLOW, A. E., work by, as assistant to Ells and Low, 1883, (82-84) pp. 9-12 and 5 E.
list of fossils collected at Grand Grève and Gaspé (82-84) p. 24 E.
- BARLOW, SCOTT, work done in 1870 at Springhill, N.S., (70-71) p. 6.
surveys made by in Springhill coal field in 1871, 71-72) p. 12.
work of, commended by Sir Wm. Logan, (71-72) p. 13.
objects of borings undertaken by, at Springhill, N. S., (71-72) p. 13.
fossils collected by, (72-73) p. 2.
summary of work in Springhill coal-field in 1871-1872 and 1873, (73-74) p. 147.
report on surveys in Springhill coal-field, Cumberland Co., N. S., (73-74) p. 147-160.
acknowledgments for assistance, (73-74) p. 148.
report of progress in surveys of Cumberland coal-fields, N.S., (75-76) pp. 343-347.
surveys and measurements made in 1875 in Cumberland Co., (75-76) p. 344.
work in Nova Scotia, Cumberland Co., in 1876, (76-77) p. 4.
work done by, in Cumberland Co. N. S., 1877-78, (77-78) p. 6.
- BARLOW, ROBT., map of Eastern Townships, drawn by, (63-66) pp. 6 and 30.
compilation of map, Thunder Bay to Nipigon, (66-69) E. p. 318, F. p. 350.
map of Lake Nipigon, published in 1832, proved nearly correct, (66-69) E. p. 472, F. p. 52b.
work by, on map of E. Townships, Que., (71-72) p. 14.
map of Peace River constructed by, referred to, (75-76) p. 31.
retirement from staff announced, (79-80) p. 9.
- Barnabys Head, N.B., Laurentian rocks on, (70-71) p. 93.
Kingston series exposed at, (78-79) p. 5 D.

- Barnard River, B.C., mouth of, (75-76) p. 43.
- Barnesville, King's Co., N. B., synclinal structure, petrosilex and breccias, plateau, (77-78) pp. 7, 8 DD.
- Huronian rocks of, (70-71) p. 62.
- Barnesville Corner, Kings Co., N.B., petrosilex, breccia, (77-78) p. 7. DD.
- Barn-hill Lot, Acadia Mines, indications of ore on, (72-73) p. 22.
- Barns, illustration showing Outer and Inner, islands in Lake Nipigon, (77-78) p. 17 C.
- Barn-shaped Mountain, Gaspé, height of, (82-84) p. 10 E.
- granite thrust up along line of contact, (82-84) p. 21 E.
- trachytic granite of, age of, (82-84) p. 32 E.
- BARNSTON, GEORGE, Devonian fossils from Moose River, presented to Museum, (70-71) p. 10.
- list of plants, determined by, (70-71) pp. 306-308.
- traverses made in 1872, Black Sturgeon River Valley, (72-73) pp. 97-98.
- Barnston Tp., Que., granite intrusions in, (1863) p. 434.
- Barometric observations taken by R. Bell in 1870 to establish heights, (70-71) p. 324.
- on trail up N. Thompson River, B.C., Journal of Dr. Selwyn's exploration, (71-72) pp. 25-48.
- Barometric heights in Pine Pass, how obtained, (79-80) 37 B.
- in region in vicinity of Bow and Belly Rivers, (82-84) pp. 154-156 C.
- Barrack Hill, Ottawa, the Trenton beds exposed at, fossils of, (1863) p. 166.
- Barrel-quartz, notes on origin of, (70-71) p. 266.
- of Cape Porcupine, Strait of Canso, N.S., (79-80) p. 10 F.
- Barrens in Cape Breton and Richmond Cos., N. S., origin of, (77-78) p. 27 F.
- character of, in southern Cape Breton, (79-80) p. 111 F.
- northern Cape Breton, note on, character of, (82-84) p. 77 H.
- Barren Grounds, north-west of Churchill River, view over, with Chippewyan camp, (78-79) face p. 20 C.
- Barren Lake, Lock Lomond, N. S., ice shoving, (77-78) p. 28 F.
- Barren measures, near Acadia seam, Pictou coal-field, (66-69) E. p. 80, F. p. 89.
- Barrie Island, Lake Huron, composed of Hudson River rocks, (1863) p. 219.
- Clinton formation, near, (1863) p. 321.
- note on geology of, (63-66) p. 171.
- Barrie Tp., Ont., note on marble of Laurentian found in, (1863) p. 823.
- Hastings series extending through, (70-71) p. 311.
- green diorite schists in, (70-71) p. 311.
- distribution of gneiss series in, (72-73) p. 144.
- Barrie Tp., Ont.—*Cont.*
- conglomerates and schists on Addington road, (72-73) pp. 151-152.
- diorites and dolomites of, (72-73) p. 153.
- schists, mica and speckled, in, (72-73) pp. 153-154.
- mica schist series in, (74-75) p. 129.
- note on sample of antimonial ore supposed to come from, (82-84) p. 12 L.
- Barrier Island, Georgian Bay, Hudson River rocks recorded at, (1863) p. 214.
- Barrow Island, St. Lawrence River, Gananoque, Ont., syenite of, useful as building stone, (1863) p. 811.
- Barry Cape, Gaspé, south point of Mal Bay, rocks of Bonaventure Formation, (1863) p. 438.
- Barton Creek, Grand River, Ont., exposure of Onondaga Formation beds on, (1863) p. 349.
- Barton Tp., near Hamilton, section of well, (63-66) p. 251.
- Baryta, salts of, note on presence of, in mineral waters of Canada, (1863) p. 553.
- sulphate of, note on occurrences of, in Ontario and Quebec, (1863) p. 458.
- uses of, annual consumption of, localities of occurrence, (1863) pp. 770-771.
- vein of, in Hull, Que., (73-74) p. 145.
- Barytes of Judique Chapel Brook and McMillan Point, N.S., note on, (79-80) p. 125 F.
- occurrence of, in Mabou Coal Field, C.B., along faulted contact, (82-84) p. 69 H.
- with hematite, note on localities in Nova Scotia, (73-74) p. 220.
- description of Eureka Mine, Five Islands, Colchester Co., N.S., (82-84) p. 23 L.
- with specular iron, Haycock mine, Templeton, (73-74) p. 220.
- Hull and Buckingham, Que., (63-66) pp. 19-20.
- Baryto-celestine, *see* Celestine.
- Barytophyllite, similar to chloritoid, analysis of, (1863) p. 498.
- Basal conglomerates of Lower Carboniferous of N.B., (72-73) p. 183.
- position, character and thickness in Lower Carboniferous, N.B., (76-77) p. 355.
- Basal sandstone of Sillery division, (63-66) p. 37.
- Basalt, general characters of, (1863) p. 651.
- overflow of clays by, near Ko-has-gan-ko River, B.C., (76-77) p. 76.
- inclined beds of, near Na-tal-kuz Lake, B.C., (76-77) p. 81.
- inclined columns of, on Nechacco River, B.C., at Cut-off Brook, (76-77) p. 82.
- dykes, Pointe aux Mines, Ont., (76-77) p. 216.
- of the Columbia River plateau, thickness of beds, erosion of basalts, (82-84) pp. 39-40 B.
- Lower Carboniferous, York Co., N.B., note on, (82-84) p. 26 G.

Basalt—Cont.

- and tuff, section of, on Nechacco River, B.C., (76-77) p. 81.
- Basaltic boulders on plateau west of Quesnel, B.C., (75-76) p. 262.
- Basaltic islands in Chateau Bay, Labrador, (82-84) p. 10 DD.
- Basaltic plateau, south of Upper Blackwater Valley, B.C., (76-77) p. 25.
- Basaltic series of Central B.C., general character, western limits, lithological characters of, (75-76) pp. 260-261.
- Base of Pierre, constant character of beds, examples of, (82-84) p. 122 C.
- Basic rocks in series on Lake Superior, (63-66) p. 118.
- Basin of Hudson Bay, note on extent of, (79-80) p. 28 C.
note on geology of, (79-80) p. 30 C.
- Basin of Moose River, report on geology of, by Dr. R. Bell, (80-82) pp. 1-9 C.
- Basin of Peace River, note on area of, &c., (79-80) p. 66 B.
- Basin of the St. Lawrence, general physical description of, (1863) p. 1.
- Basin of rocks in Clarendon Tp., Ont., (76-77) p. 253.
- Basin shape of Carboniferous rocks of Cape Breton, (74-75) p. 262.
- Basins in the coal-field of Cape Breton, (74-75) pp. 204-262.
- Basket work, hats manufactured by Haida Indians, (78-79) p. 137 B.
- Basque Harbour, Magdalen Is., note on, (79-80) p. 2 G.
- Basswood, note on northern limit of, in Canada, (79-80) p. 51 C.
- Basswood Lake, international boundary, origin of name, (72-73) p. 94.
- Basswood Ridge Road, north of St. Stephen, N.B., diorites of, (70-71) p. 50.
- Bass River, Bay of Chaleurs, exposures of mill-stone grit, (79-80) p. 6 D.
- Bastard Tp., Ont., general note on crystalline limestones in, with section, (1863) pp. 31-32.
fossils of Potsdam, near Lansdowne Tp., (1863) p. 93.
the Potsdam sandstone, exposed in, (1863) p. 93.
note on passage beds at top of Potsdam, (1863) p. 102.
hematite in Potsdam sandstone, reference to, (1863) p. 510.
analysis of limonite from, (1863) p. 511.
reference to copper pyrites in, (1863) p. 514.
analysis of soil from, (1863) pp. 639-640.
note on hematite in, (1863) p. 681.
note on limonite deposits in, (1863) p. 683.
copper ore in, note on localities of, (1863) p. 692.

Bastard Tp., Ont.—Cont.

- limestone of, used as marble, (1863) p. 822.
lot 20, R. II., analysis of bog ore, (73-74) p. 237.
- Bastard limestone, Pine-tree Brook, Pictou, (66-69) E. p. 9, F. p. 10.
- Batchewana, Batchehwahnung and Batchewahnung Bay. *See* Batchewanung Bay.
- Bates Farm, San José River, B. C., saw and grist mill, quality of flour, (75-76) p. 125.
copper from, (76-77) p. 148.
- Bath village, N.B., sections of terraces in valley of St. John River at, (82-84) p. 31 GG.
- Bathurst to Newcastle, N.B., exposures of Middle Carboniferous on I.C. Ry., (79-80) p. 5 D.
- Bathurst, N. B., rocks of Bonaventure series exposed on Nipisiguit River, copper ore, section of strata, (1863) p. 451.
description of Bonaventure Formation near, (79-80) p. 7 D.
copper mine near, note on character of deposit, (79-80) p. 8 D.
the granites of vicinity of, (79-80) p. 33 D.
shells of the marine clays near, thickness of deposit, (79-80) pp. 42-43 D.
- Bathurst sheet, map of part of Gloucester Co., N. B., scale 4 miles=1 in., No 3. S. E., with report, (80-82) D.
- Bathurst Tp., Ont., albitic veins intersecting Laurentian, (1863) p. 36.
heavy spar, occurrence of, noted, (1863) p. 458.
analysis of albite or peristerite from, (1863) p. 477.
analysis of aluminous pyroxene found by Dr. Wilson, (1863) p. 467.
analysis of wilsonite found in, (1863) p. 483.
crystals of black tourmaline in, (1863) p. 493.
opalescent albite, ornamental stone, (1863) p. 833.
locality in, for magnetic iron ore, (70-71) p. 313.
horizon of iron ore Foley mine. (72-73) p. 161.
Gordon's iron ore deposits—lot 27, R. VI., (74-75) p. 118.
limestone band above hornblende, (74-75) p. 150.
hornblende rocks of group IV., (74-75) p. 150.
gneiss and limestone series in, (74-75) p. 155.
analysis of pyroxene from, (77-78) p. 23 G.
locality for crystals, lot 20, R. IX., (82-84) p. 15 L.
- Bathyurus amplimarginatus* Billings, wood-cut of part of, (1863) p. 122.
- Bathyurus Angelini*, Billings, wood-cut of, (1863) p. 133.
- Bathyurus armatus*, Billings, wood-cut of head, (1863) p. 238.
- Bathyurus bituberculatus*, Billings, wood-cut of head, (1863) p. 238.

- Bathyrurus capax*, Billings, wood-cut of head and section of, (1863) p. 238.
- Bathyrurus conicus*, Billings, wood-cut of part of, (1863) p. 122.
- Bathyrurus Cordai*, Billings, wood-cut of head, (1863) p. 238.
- Bathyrurus Cybele*, Billings, wood-cut of view of parts of, (1863) p. 122.
- Bathyrurus extans*, Hall, wood-cut of, (1863) p. 153.
- Bathyrurus oblongus*, Billings, wood-cut of head, (1863) p. 238.
- Bathyrurus parvulus*, Billings, from Str. of Belle Isle, wood-cut of head, (1863) p. 286.
- Bathyrurus quadratus*, Billings, wood-cut of head, 1863, p. 238.
- Bathyrurus Saffordi*, Billings, wood-cuts of glabella and pygidium, (1863) p. 239.
- Bathyrurus senectus*, Billings, from Str. of Belle Isle, wood-cuts of parts of, (1863) p. 286.
- Bathyrurus Smithi*, Billings, wood-cut of enlarged view of, (1863) p. 153.
- Batiscan River, Que., mineral springs at Ste. Geneviève, reference to analysis, (1863) p. 544.
- bog-ore deposits near, (1863) p. 685.
- Batiscan Furnace, Que., reference to, (73-74) p. 248.
- Baton used in dancing, Haida Indians, description of, (78-79) p. 139 B.
- Battersea, Ont., lead vein uncovered near Dog Lake, (70-71) p. 314.
- Battery Hill, Pictou Co., N. S., micaceous specular iron ore, (66-69) E. p. 438, F. p. 490.
- Battery Point, Anticosti, origin of name from *Beatricea* fossils, (1863) p. 224.
- Battery Point, Fort Churchill, assay of quartz from, (78-79) p. 22 H.
- Battéwicheagameg Lake, Que., calcareous ridge of Gaspé series, (1863) pp. 426-427.
- Battle Bluff, Kamloops Lake, geological formation of (77-78) p. 17 B.
- beds surrounding diorite mass, (77-78) p. 117 B.
- Battle Island, near Nipigon Bay, Ont., the rocks of, section giving thickness of sedimentary rocks, (1863) p. 78.
- Battle Mountain, Chilcotin River, B. C., columnar basalt, (75-76) p. 236.
- note on volcanic rocks of, plant remains in volcanic breccia, (75-76) pp. 252-253.
- Battle River, Peace River, rich land, vegetables grown, (75-76) pp. 157-158.
- character of country south, (79-80) p. 60 B.
- Devonian fossils found in drift boulders, (79-80) p. 131 B.
- BAUERMAN, H., geological work in British Columbia, (71-72) p. 51.
- report on vicinity of 49th parallel west of Rocky Mountains, (82-84) pp. 5-42 B.
- Baumes scale-table giving sp. g. and amount of salt for each degree, (66-69) E. p. 242, F. p. 268.
- Bavaria, the Hercynian Series, Huronian, (63-66) p. 197.
- Laurentian System in, (63-66) p. 196.
- Bay City, Mich., brines, purity of, (63-66) p. 267.
- rock salt at, (76-77) p. 241.
- Bayer River, Que., limit of Sillery sandstones in valley of, (1863) p. 258.
- Bayer and Stanbridge anticlinal, course of outlined, lower shales of Quebec group, intrusive trachytes, (1863) p. 238.
- BAYFIELD, ADMIRAL, reference to surveys and papers on Canadian geology, (1863) p. x.
- surveys and charts by, used in compiling, (1863) Atlas.
- Bayfield, Ont., salt works erected at, (74-75) p. 288.
- Bayfield Sound, Ont., escarpment of Niagara, (63-66) p. 176.
- Baynes Sound coal mines, B. C., section at, dip, fault, (71-72) p. 79.
- analysis of coal, (71-72) p. 99.
- section in ravine at, (72-73) p. 43.
- note on iron ores from, (72-73) p. 82.
- note on clay-ironstone of Cretaceous rocks, (73-74) p. 240.
- percentage of iron in clay ironstone, (73-74) p. 242.
- analysis of coal from, (76-77) p. 468.
- note on section at, (76-77) p. 163.
- Baynes Sound, coal-bearing region visited by G. M. Dawson in 1878, (78-79) p. 1 B.
- iron ore at, (76-77) p. 146.
- Bay of Chaleurs, rocks of Quebec group exposed on, (1863) p. 272.
- description of the Bonaventure series on, (1863) pp. 442-453.
- note on distribution of Bonaventure Formation, (1863) p. 886.
- the Middle Carboniferous of south shore of, (79-80) p. 6 D.
- Lower Carboniferous exposures on shores of, (79-80) pp. 8-10 D.
- Silurian rocks of south shore, (79-80) p. 19 D.
- Lower Carboniferous rocks of north shore of, (80-82) pp. 6-9 D.
- Devonian rocks of basin of, (80-82) pp. 9-12 D.
- note on eruptive rocks of, (80-82) pp. 17-19 D.
- note on marine clays of, (80-82) p. 20 D.
- Bay du Febvre, Que., note on mineral springs at, (1863) p. 534.
- analysis of mineral water from, (1863) p. 549.
- classification of mineral springs at, (1863) p. 562.
- Bay of Fundy Granite Company, quarries of, (76-77) p. 346.

- Bay of Fundy, character of coast of, in St. John and Albert Cos., N.B., (77-78) p. 2 D.
note on tidal erosion in, (77-78) pp. 18-22 EE.
gravel and mud deposits of, (77-78) pp. 20-22. EE.
list of marine invertebrates in Leda clay of, (77-78) pp. 29-30 EE.
- Bay of Quinté, Ont., note on boulders of vicinity of, (1863) p. 895.
- Bay St. Barbe, Nfld., note on rocks of, (1863) p. 871.
- Bay St. Lawrence, N.S., Lower Carboniferous limestone series, (82-84) p. 52 H.
note on coaly shale of, (82-84) p. 90 H.
- Bay St. Paul, Nfld., fossils found in rocks of, (1863) pp. 877-878.
- Bay St. Paul, Que., note on ilmenite deposit of St. Urbain, (1863) p. 35.
calcareous sandstone, possibly Calciferous, (1863) p. 119.
the Trenton Group exposed near, (1863) p. 160.
green fluor-spar found at, (1863) p. 463.
note on ilmenite from, analysis of, (1863) p. 501.
mineral resembling allanite found at, (1863) p. 505.
note on galena in Trenton, at, (1863) p. 516.
character of water of saline spring at, (1863) p. 534.
note on exposures of ilmenite, (1863) p. 754.
garnet rock of, referred to as an abrasive material, (1863) p. 807.
white gneiss suitable for building stone, (1863) p. 812.
terraces of, marine shells in, land slips, (1863) p. 923.
ilmenite of, analyses of, (73-74) p. 227.
dimensions of furnace, charcoal consumed, iron produced, analysis of pig iron, titanic ores, note on, (73-74) pp. 250-251.
- Bay of Seven Islands, Que., note on possibility of Potsdam occurring on islands of, (1863) pp. 96-97.
limestones of Trenton age reported, (1863) p. 164.
titanic iron-ores, partial analysis of, (66-69) E. p. 260, F. p. 288.
black sand on coast at, (66-69) E. p. 266, F. p. 294.
Trenton fossils from, identified by Billings, (66-69) E. p. 307, F. p. 340.
Silurian limestones found at, (66-69) E. p. 307, F. p. 340.
labradorite rocks inclosing iron ore, (66-69) E. p. 307, F. p. 339.
- Bay Verte, N.B., note on Permo-Carboniferous rocks of, (80-82) p. 6 D.
- Bay du Vin River, N.B., character of coal found on, (80-82) p. 5 D.
- Bayonne River, Que., the Trenton rocks exposed on, evidence of fault, (1863) p. 149.
- Beach Corner, Mal Bay, Gaspé, rocks of Bonaventure Formation, (1863), p. 437.
- Beach Hill, Westmoreland Co., N.B., pre-Silurian rocks in, (77-78) p. 6 D.
- Beach ridges, near Beautiful Plain, Man., (74-75) p. 28.
elevation of, (74-75) p. 49.
- Beach sand of Nipigon and Black Sturgeon Lake, (66-69) E. p. 356, Fr p. 394.
- Beaches formed by ice action in Manitoba, (74-75) p. 53.
- Beaches, raised, in southern N.B., levels of (77-78), p. 31 EE.
- Beaches and ridges of Ontario, (1863) pp. 910-915.
- Beacon Hill, Victoria, B.C., cliff of clay and sand, brick clay, (71-72) p. 94.
- Beacon Point, York Factory, character of shoals, (77-78) p. 10 CC.
evidence of subsidence of land, (77-78) p. 25.
- Beady Creek, B.C., gold workings on, (76-77) p. 139.
- Beamsville, Ont., note on galena in Niagara Formation near, (1863) p. 324.
- Beans Island, near Deer Is., Passamaquoddy Bay, N.B., felsites and schists, (70-71) p. 91.
- Bear Creek syncline, Pictou coal-field, (66-69) E. p. 73, F. p. 81.
- Bear Creek area, Pictou, anticline on, (66-69) E. p. 77, F. p. 86.
west fault cutting off Acadia seam, (66-69) E. p. 102, F. p. 115.
- Bear Creek, B.C., gold workings on, (76-77) p. 136.
- Bear Creek, Warwick Tp., Ont., exposure of bituminous shale near Kingston Mills, (1863) p. 388.
- Bear Head Point, Anticosti, Que., dip of beds at, (1863) p. 300.
- Bear Island, Strait of Canso, section of Carboniferous rocks on, (79-80) pp. 90-91 F.
- Bear Lake, B.C., height of, (79-80) p. 24 B.
- Bear Mountain, Pottou Tp., Que., microscopic structure of felspathic hornblende-schist, (80-82) p. 16 A.
- Bear River, B.C., coal on, (76-77) p. 145.
- Bear River, Smoky River, description of, (79-80) p. 54 B.
- Bear River, Pelican Lake, Sask., description of, rock exposures, (79-80) p. 12 C.
- Bear-skin Bay, Skidegate Inlet, rocks of lower shale and sandstone series, thickness of, (78-79) p. 69 B.
- Bears killed by Haidas on Q.C.I. for food, two seasons, (78-79) p. 113 B.
- Beattys Line, crossing Pic River, Ont., reference to, (70-71) p. 327.
crossing of, on Long Lake, Algoma, (70-71) p. 337.

- Beattys Line—*Cont.*
north of Lake Superior, character of country along, (70-71) p. 350.
- Beattys Mountain, Pic River, Ont., gneiss with granite veins, (70-71) p. 329.
- Beaufils Brook, Gaspé, Que., limited area of Carboniferous seen on, (80-82) p. 2 DD.
- Beaufort Bay, Manitoulin Island, Utica Formation exposed at, recorded, (1863) p. 216.
Hudson River rocks at, (1863) pp. 218-219.
- Beaufort coal mine, V.I., thickness of seam, dip of measures, (71-72) p. 78.
analysis of coal from, (71-72) p. 99.
- Beauharnois, Que., width of Potsdam sandstone band, occurrence of tracks (*Protichnites*), (1863) p. 90.
Potsdam sandstone holding *Ophileta* and *Protichnites*, (1863) p. 102.
wood-cuts of tracks on sandstone at, (1863) p. 104.
section of Potsdam sandstone at, (1863) pp. 105-106.
height of Potsdam track beds above Lake St. Peter, (1863) p. 109.
Potsdam anticline, dividing Calciferous of Canada into two parts, (1863) p. 113.
occurrence of gypsum in dolomites (1863), p. 459.
note on sandstone for building purposes (1863), p. 813.
- Beaumont, Que., red and green shales of, supposed outcrop traced, (1863) p. 231.
- Beauport, Que., note on limestone of, for building purposes, (1863) p. 819.
fossils found in post-Tertiary clays and sands of, (1863) p. 925.
list of post-Tertiary fossils found at, (1863) pp. 926-928.
- Beauport River, Que., distribution of Trenton limestones on, (1863) p. 157.
- Beaurivage River, St. Giles, Que., conglomerate bands at forks of, (1863) p. 257.
- Beausoleil Island, opposite Penetanguishene, Ont., position of, (76-77) p. 207.
- Beautiful Plain, Man., description of ridge at, (74-75) p. 28.
- Beaver Brook, Stanbridge Tp., Que., fault near Wallbridge Mills, (1863) p. 853.
- Beaver Brook, B.C., outlet of Cranberry Lake, (71-72) p. 39.
- Beaver Brook, N.S., quartz veins of, (76-77) p. 407.
- Beaver Cove road, C.B., contorted gneiss of, (76-77) p. 408.
amygdaloid of (76-77) p. 430.
- Beaver-dam Creek, west of Quesnel, B.C., botanical notes by Prof. Macoun, (75-76) p. 129.
- Beaver-dams and meadows, Swan River, Man., (74-75) p. 33.
- Beaver Harbour, N.B., rocks of Coastal group, Huronian, (70-71) p. 83.
and L'Etang Harbour, outlines of the Coastal group, (70-71) pp. 85-92.
to Lepreau Harbour, rocks of Coastal group, N.B., (70-71) pp. 92-94.
Kingston group exposed in, (70-71) p. 125.
thickness of Upper Silurian, (76-77) p. 338.
- Beaver Harbour, Vancouver Island, explorations near, in 1878, note on, (78-79) p. 1 B.
glaciation running to north-west, (78-79) p. 97 B.
- Beaver Hill Lake, above God's Lake, situation of, length, (78-79) p. 31 C.
- Beaver Indians of Pine River and vicinity, note on, (79-80) p. 49 B.
- Beaver Lake, Addington Co., Ont., the lower part of Trenton group exposed at, (1863) p. 179.
- Beaver Lake, north of Cumberland House, N.W.T., Silurian rocks reported on by Sir John Richardson, (73-74) p. 52.
- Beaver Lodge River, Smoky River, description of, (79-80) p. 55 B.
- Beaver Portage, Missinabi River, diorite dyke, (75-76) p. 333.
- Beaver Point, Bay of Chaleurs, diabasic rocks of, (79-80) p. 41 D.
- Beaver River, Athabasca River, anticlines in strata at, fossils, (75-76) p. 170.
- Beaver River, entering Isle à la Crosse Lake, Silurian rocks reported by Sir John Richardson, (73-74) p. 52.
character of, to Green Lake, (75-76) pp. 179-181.
character of valley, slate-coloured marl, Cre-taceous, at rapids, (82-84) pp. 27-28 CC.
- Beaver River, Thorah Tp., Ont., exposures of Trenton on, (1863) p. 193.
indentation in outcrop of Clinton Formation, (1863) p. 315.
the Niagara Formation, outcrop in valley of, (1863) p. 328.
- Bécancour River, Que., exposures of red shale and gray sandstone in Quebec Group, (1863) p. 242.
- Beccaguimic District, Carleton Co., N.B., bands of red and green argillites, (66-69) E. p. 199, F. p. 221.
- Beccaguimic River, N.B., iron ores of vicinity of, (66-69) E. p. 208, F. p. 231.
outlier of Lower Carboniferous, elevation, limits, fossils, (70-71) p. 243.
forks of Coldstream, iron ore deposits at and near, (74-75) p. 101.
unconformity between Silurian and Cambro-Silurian, (82-84) p. 8 G.
examples of terraces on, (82-84) pp. 37-38 GG.
- Beccaguimic Lake basin, N.B., superficial geology of, (82-84) p. 19 GG.

- Becharvais Mountain, York River, Gaspé, rocks of, (1863) p. 884.
- Beck Mine, Thunder Bay, galena and silver-glance, character of vein, (72-73) p. 109.
- Beckwith Tp. to Prescott, Ont., general distribution of Calciferous, (1863) p. 118.
- Beckwith Tp., Ont., peat deposits noted in, (1863) p. 780.
- Bedded lodes, Marmora, Ont., represented on map, (71-72) pp. 131-140.
- Bedeque Bay, P.E.I., rocks exposed, (82-84) p. 14 E.
probability of finding continuations of coal seams of N.B., (82-84) pp. 16-17 E.
- Bedford Tp., Ont., crystalline limestone in, referred to, (1863) p. 46.
galena in Laurentian, note, (1863) p. 516.
note on deposits of magnetic iron ore in, (1863) p. 674.
galena in limestones of Laurentian, (1863) p. 687.
plumbago found in; also on Bird Lake, (1863) p. 795.
iron ores of, (70-71) p. 312.
ores of lead in, (70-71) p. 314.
descriptions of apatite deposits in, (70-71) p. 315.
rocks of, (72-73) pp. 162-163.
phosphate basin, (72-73)* p. 170-174.
phosphate rocks of, (73-74) p. 104-106.
synclines in phosphate rocks of, (73-74) pp. 107-109.
Eozoön with dolomites and serpentines in synclines, (73-74) p. 109.
limestone bands in, (72-73) p. 160.
lot 6, R. III., note on associations of magnetite with other minerals, (73-74) p. 196.
analysis of magnetite from near Eagle Lake, (73-74) p. 211.
Howse iron ore deposits, shipment of ore, character and extent, position, section showing arrangement of beds, (74-75) pp. 118-120
section across, showing horizon of iron-ore beds, (74-75) p. 120.
apatite deposits of, lot 2, R. XII., (74-75) p. 159.
note on iron mines in, (82-84) pp. 10-11 L.
- Bedford, Que., rocks of Quebec Group traced to Pike River, (1863) p. 276.
slaty conglomerates of Div. D., Phillipsburgh, Que., fossils found, (1863) p. 849
- Beece or Anahim's Peak, B.C., situation of, (76-77) p. 26.
- Beech, note on northern limit of in Canada, (79-80) p. 52 C.
- Beech Hill road, near Memramcook Corner, N. B., copper ore deposit at, (80-82) p. 23 D.
- Begley mine, Ont., granitoid gneiss at, (63-66) p. 117.
description of mine, (63-66) p. 121.
- Belanger Island, Hudson Bay, section on, (77-78) p. 16 C.
character of chalcedony on, (77-78) p. 22 C.
- Belanger Island—*Cont.*
occurrence of hydraulic cement-stone, (77-78) p. 23 C.
- Belchers Islands, Hudson Bay, note on probable formation of, (75-76) p. 324.
- Belemnites* range of genus, notes on Q.C.I. specimens, (72-73) pp. 73-71.
notes on specimens, Itasyouco River, B.C., (76-77) p. 157.
- Belfountain, Ont., exposures of Niagara Formation at falls of Credit River, (1863) p. 327.
- BELFRY, J., table salt manufactured by, (74-75) p. 279.
- Belfry Lakes, N.S., red syenite, diorite and quartz felsite of, (77-78) p. 9 F.
Carboniferous outliers near, (77-78) p. 23 F.
- Belisle Point, St. John River, N.B., supposed Huronian rocks near, (70-71) p. 118.
- Beliveau, N.B., further explorations for Albertite, (78-79) p. 26 D.
distribution of the Albert shales, (76-77) pp. 358, 369.
diagrammatic section at, (76-77) face page 356.
section of Lower Carboniferous rocks, (76-77) p. 369.
diagrams of, (76-77) face p. 356.
- Beliveau Albertite and Oil Company, special report by Bailey & Ellis to, (76-77) pp. 397-401.
- Bella Bella, B.C., land under cultivation at, (74-76) p. 75.
- Bella Coola trail, near Il-ga-chuz Mts., (76-77) p. 37.
description of, west from Blackwater Bridge, and near Salmon River valley, (76-77) pp. 20, 37.
- BELL, REV. ANDREW, reference to geological and palæontological work of, (1863) p. xi.
- BELL, JOHN, M.D., botanical reconnaissance of Manitoulin Islands, (66-69) E. p. 109, F. p. 123.
on the plants of Manitoulin Islands, lists of, (66-69) E. pp. 449-469, F. pp. 501-524.
- BELL, PROF. J. T., assays for gold, Empire mine, list of localities, (66-69) E. p. 169, F. p. 188.
discovery of tin in ore from Madoc and Marmora, (71-72) p. 131.
- BELL, DR. R., surveys made by, in 1862 in Gaspé, (1863) p. 11 Atlas
sketch of work performed previous to 1863, (1863) pp. iv-v.
work continued through Manitoulin Islands, (63-66) p. 9.
work on Middle Silurian of Ontario, 1865, (63-66) p. 8.
report on Grand Manitoulin Islands, (63-66) pp. 165-179.
work of 1866 in Manitoulin Islands, (66-69) E. p. 109, F. p. 123.
report on Cockburn, Drummond and Manitoulin Islands, (66-69) E. pp. 109-117, F. pp. 123-132.

BELL, Dr. R.—*Cont.*

- acknowledgments for aid in work, 1869, (66-69) E. p. 313, F. p. 346.
 work of season of 1869 and results, (66-69) E. pp. 313-317, F. pp. 345-350.
 report on Thunder Bay and Lake Nipigon, (66-69) E. pp. 313-364, F. pp. 345-403.
 assistants during 1869, (66-69) E. p. 314, F. p. 346.
 instructions from Minister of Public Works, (66-69) E. p. 315, F. p. 347.
 note by Sir W. Logan on heights of Nipigon as given by, (66-69) E. p. 472, F. p. 526.
 note by Dr. Selwyn on work of, in Nipigon region in 1869, (69-70) pp. 6-7 Summ.
 mineral statistics for Ont. and Que., undertaken, copies of circulars sent out, (69-70) pp. 12-14 Summ.
 work in 1870 on Pic, Kenogami and White rivers, (70-71) p. 9.
 region explored in 1870, acknowledgments, (70-71) p. 322.
 report on country north of Lake Superior, between Nipigon and Michipicoten rivers, (70-71) pp. 322-351.
 lakes and rivers surveyed in 1870, instruments used in establishing heights, (70-71) pp. 323-324.
 list of rivers and lakes, portages and traverses measured in 1870, (70-71) pp. 325-326.
 region explored in 1871, party, acknowledgments, (71-72) p. 101.
 report on country north of Lake Nipigon, including survey, (71-72) pp. 101-114.
 plans of surveys published, routes travelled, summary of surveys, (71-72) p. 102.
 report of Wabinoish River, (71-72) p. 105-106.
 report of Pikitigouching River, (71-72) p. 106.
 report on Ombabika River to Albany River, (71-72) pp. 106-109.
 report on Albany River and part of Kenogami River, (71-72) pp. 109-114.
 sketch of return journey, 1871, from Albany River, (71-72) p. 114.
 region explored in 1872, personnel of party, (72-73) p. 87.
 report on country between Lake Superior and Lake Winnipeg, (72-73) pp. 87-111.
 acknowledgments for aid, routes travelled, 1872, (72-73) p. 88.
 surveys made in 1872, (72-73) p. 89.
 summary of explorations by, in 1873, valley of the Qu'Appelle River, (73-74) p. 4.
 summary of work for 1873 and instructions for field work, (73-74) pp. 66-68.
 report on country south of Qu'Appelle River, N.W.T., (73-74) pp. 69-87.
 notes on geology of Red River route, (73-74) pp. 87-90.
 sketch of route travelled in 1873, Qu'Appelle River and Dirt Hills, (73-74) pp. 69-70.
 character of surveys made on plains, (73-74) p. 72.
 letter of instructions for surveys of 1874 from Dr. Selwyn, (74-75) p. 24.

BELL, Dr. R.—*Cont.*

- report on country west of lakes Manitoba and Winnipegosis, with notes on geology of Lake Winnipeg, (74-75) pp. 24-40.
 route travelled to Fort Pelly, 1874, (74-75) pp. 25-29.
 distances travelled in 1874, (74-75) p. 40.
 the glacial and superficial geology of the North-west Territories, (74-75) pp. 40-56.
 Lake Winnipegosis, salt works near mouth of, (74-75) p. 69.
 summary of surveys made in 1875, (75-76) pp. 294-296.
 report on explorations between Lake Huron and James Bay in 1875, (75-76) pp. 294-342.
 work on north shore of Great Lakes by, (76-77) p. 3.
 report on north shore of Great Lakes by, (76-77) pp. 193-220.
 work done by, during 1877-78, (77-78) p. 5.
 summary of field operations for 1877, east coast of Hudson Bay and Abitibi River, (77-78) pp. 1-8 C.
 report on exploration of east coast of Hudson Bay and Abitibi River, (77-78) pp. 1-37 C.
 summary of operations in 1878, Nelson, Hayes, and Hill rivers, Lake Winnipeg, (77-78) pp. 1-2 CC.
 report on route from Norway House to York Factory and Nelson River, and part of Lake Winnipeg, (77-78) pp. 1-31 CC.
 summary of exploration during 1879, (78-79) p. 2.
 outline of operations for summer of 1879, surveys made, etc., (78-79) pp. 1-4 C.
 report on explorations on Churchill and Nelson rivers and around Gods and Island lakes, (78-79) pp. 1-44 C.
 lists of fossils collected by, from Nelson and Churchill rivers and from St. Andrews, Man., (78-79) pp. 45-51 C.
 list of plants collected by, 1877-1879, (78-79) pp. 53-60 C.
 list of fresh-water mollusca collected by, in Man. and on the Nelson River, (78-79) pp. 61-62 C.
 list of coleoptera collected by, Nelson and Churchill rivers, (78-79) pp. 65-66 C.
 list of birds collected between Norway House and Churchill, (78-79) pp. 67-70 C.
 list of magnetic variations noted on Churchill and Nelson rivers and Lake Winnipeg, (78-79) pp. 71-72 C.
 analysis of lazulite collected by, (78-79) p. 2 H.
 summary of instructions for 1880 in Hudson Bay basin, (79-80) p. 2.
 summary of explorations for 1880, personnel of party, routes traversed, etc., (79-80) pp. 1-3 C.
 report on Hudson Bay and some of the lakes and rivers west of it (Reindeer Lake), (79-80) pp. 1-113 C.
 notes on voyage from York Factory by "Ocean Nymph," (79-80) pp. 16-27 C.

BELL, Dr. R.—*Cont.*

- general account of Hudson Bay, (79-80) pp. 27-38 C.
 on northern limits of forest trees of Canada, with map, authorities consulted and critical notes on thirty species, (79-80) pp. 38-56 C.
 list of fossils collected by, in Manitoba, 1880, (79-80) pp. 57-58 C.
 list of plants collected by, in 1880, (79-80) pp. 59-69 C.
 list of coleoptera collected in 1880, (79-80) pp. 70-74 C.
 list of land, fresh water and marine mollusca, collected by, 1880, (79-80) pp. 75-76 C.
 summary of explorations in Lake Superior region and from Fort William to Lake of the Woods, (80-82) pp. 3-4.
 summary of explorations on Athabasca River during 1882, (80-82) pp. 14-15.
 on origin of petroleum on Athabasca River, (80-82) p. 15.
 paper read before Royal Society, first meeting, (80-82) p. 23.
 collection of birds and mammals purchased from, (80-82) p. 25.
 report on geology of basin of Moose River and adjacent country, (80-82) pp. 1-9 C.
 note by, on explorations of 1881, north of Michipicoten, (80-82) p. 2 C.
 plan of mouth of Moose River, James Bay, (80-82) p. 10 C.
 report on geology of Lake of the Woods and adjacent country, (80-82) pp. 11-15 C.
 list of plants collected by, Moose River basin and Michipicoten River, (80-82) pp. 17-28 C.
 lists of coleoptera collected by, in Lake Superior district and N.W.T., 1881, (80-82) pp. 29-39 C.
 geological map of Lake of the Woods by, scale 8 m. = 1 in. accompanies rep., (80-82) C.
 summary of explorations of, for 1883, Wabigoon Lake, via Lac Seul to Rat Portage, and visit to Red Lake, (82-84) pp. 5-7.
 letter transmitting report on part of the basin of Athabasca River, (82-84) p. 3 CC.
 report on part of the basin of Athabasca River, with map, scale 8 m. = 1 in., (82-84) pp. 5-37 CC.
 routes travelled in 1882 to and from Athabasca, track-surveys made, etc., (82-84) p. 6 CC.
 sketch drawn by, showing Grand Rapid, Athabasca River, (82-84) face p. 10 CC.
 observations on geology, mineralogy, zoology and botany of Coast of Labrador and Hudson Strait and Bay, (82-84) pp. 1-62 DD.
 summary of work done on Hudson Bay expedition, (82-84) pp. 5-10 DD.
 plants collected on Coast of Labrador and Hudson Strait and Bay, (82-84) pp. 38-47 DD.

BELL, Dr. R.—*Cont.*

- notes on mammals of Hudson Bay and Labrador, list of, (82-84) pp. 48-53 DD.
 notes and list of birds of Hudson Bay and Labrador, (82-84) pp. 54-56 DD.
 list of crustacea collected by, at Port Burwell, (82-84) pp. 57-58 DD.
 list of marine invertebrates collected at Ashe Inlet and Port Burwell, (82-84) pp. 58-60 DD.
 list of lepidoptera collected on Hudson Strait, (82-84) p. 61 DD.
 Bell Lake, English River, strike of rocks, (72-73) p. 100.
 Laurentian rocks of, east of Lake of the Woods, (80-82) p. 14 C.
 Bell River, Man., general description of, fragments of lignite, (74-75) p. 61.
 Cretaceous shales exposed in valley of, (74-75) p. 65.
 Bellechasse Co., Que., geological map, on scale of 8 miles to an inch, (66-69) E. p. 119, F. p. 133.
 Belledune Point, Bay of Chaleurs, Lower Carboniferous of coast, (79-80) p. 8 D.
 note on deposit of shell marl, (79-80) p. 42 D.
 Belledune N.B., Silurian rocks exposed near, (79-80) p. 19 D.
 Lower Carboniferous resting on Silurian, (79-80) p. 8 D.
 Bellefontaine, Ont., exposures of Niagara limestones at falls of Credit River, (1863) p. 327.
 Belleisle Bay, St. John River, N.B., rocks of south shore and Coastal rocks of north shore, (70-71) pp. 117-118.
 Lower Carboniferous rocks on, (70-71) p. 208.
 Huronian rocks, Kingston series, (77-78) p. 11 D.
 coloured section to Quaco, Bay of Fundy, (78-79) D.
 Belleisle Corners, King Co., N.B., rocks in small stream near, (70-71) p. 79.
 Belleisle Point, Belleisle Bay, N.B., rocks of, (70-71) p. 76.
 Belleisle Valley, N.B., topography of, (70-71) p. 17.
 Belleisle Village, N.B., Lower Carboniferous rocks at, (70-71) p. 208.
 Belle Isle Brook, near Chevroitière, Que., Trenton beds on, (1863) p. 154.
 Belle Isle Strait, Potsdam sandstone occurring on north side of, (1863) p. 97.
 rocks found of similar age to red sand-rock of Vermont, (1863) p. 287.
 rocks found to be on north side of wide synclinal, (1863) p. 864.
 Belle Rivière, Que., thickness of marine clays near, (1863) p. 923.
 Belle River, Maidstone Tp., Ont., record of well, (63-66) p. 248.

- Bellerophon angustata*, Hall, wood-cuts of (1863) p. 344.
- Bellerophon Arago*, Billings, wood-cut of, (1863) p. 146.
- Bellerophon bilobatus*, Sowerby, wood-cuts of, (1863) p. 184.
- Bellerophon Charon*, Billings, wood-cut of, (1863) p. 146.
- Bellerophon disculus*, Billings, wood-cut of, (1863) p. 146.
- Bellerophon sulcatus* Emmons, wood-cut of, (1863) p. 146.
- Belleville, Ont., clays for making white bricks found at, (1863) p. 898.
- clay deposits, section at court-house, (1863) p. 904.
- Bellingham Bay, note on coal at, (76-77) p. 125.
- Belly Butte, section of Willow Creek beds in, (82-84) p. 53 C.
- Belly River, N.W.T., analysis of lignite from, (76-77) table facing p. 472.
- analysis of lignite from, (77-78) p. 49 G.
- width of disturbed belt, (80-82) p. 3 B.
- character of valley at Coal Banks, (80-82) p. 10 B.
- illustration showing outcrop of coal seam at Coal Banks, (80-82) facing p. 10 B.
- sections of coal seams exposed at Coal Banks, (80-82) pp. 12-13 B.
- analysis of coal from Coal Banks seam, (80-82) p. 14 B.
- estimated quantity of coal under one square mile at Coal Banks, (80-82) p. 22 B.
- analyses of clay ironstone from, (80-82) p. 11 H.
- general description of valley, fall in river, (82-84) pp. 25-26 C.
- note on appearance of lower part, (82-84) pp. 25-26 C.
- upper part, geological description, sections, etc., (82-84) pp. 60-64 C.
- the Pierre shales of, coal bearing zone at base of, sections showing seams, (82-84) pp. 69-73 C.
- comparative sections of coal seams on, diagram, (82-84) facing p. 72 C.
- sections of coal measures between Coal Banks and Big Island, (82-84) pp. 72-73 C.
- description of Belly River Series on, (82-84) pp. 73-76 C.
- beds of series found continuously along, underlying Pierre, (82-84) p. 123 C.
- list of coal outcrops on, with thickness of seams, (82-84) p. 130 C.
- boulder-clay divisible into upper and lower parts, (82-84) p. 143 C.
- drift deposits on, sections and diagrams, (82-84) p. 144 C.
- analysis of clay ironstone from Coal Banks and below, (82-84) pp. 168-169 C.
- below Little Bow River, analysis and calorific power of lignitic coal from, (82-84) pp. 26-27 M.
- Coal Banks, analysis of lignitic coal from, (82-84) p. 30 M.
- Belly River Series in Southern Alberta, characters and equivalency of, (80-82) p. 8 B.
- of North Branch Milk River, (82-84) p. 37 C.
- exposures between branches of Milk River, dinosaurian remains, (82-84) p. 38 C.
- on Rocky Spring plateau and near West Butte, (82-84) pp. 41-42 C.
- section of, on Milk River, east of Pa-kow-ki Coulee, (82-84) p. 44 C.
- exposed near Coal Banks, Belly River, (82-84) p. 70 C.
- on South Saskatchewan, above Medicine Hat, (82-84) pp. 76-78 C.
- exposures of, on Bow River, (82-84) pp. 91-92 C.
- note on characters of, upper portion, (82-84) p. 116 C.
- thickness of, at Fossil Coulee, Old Man River and Red Deer River, (82-84) p. 116 C.
- general description and thickness of series, (82-84) pp. 116-117 C.
- character of lower portion of, thickness, (82-84) pp. 116-117 C.
- discussion on stratigraphical position of beds, references to papers, evidences in district described, palæontological evidences, (82-84) pp. 118-126 C.
- note on eastern outcrop of upper portion of, (82-84) p. 122 C.
- thickness of, on Milk River, discussion on, (82-84) p. 124 C.
- fossils found in beds east of Pa-kow-ki Coulee, (82-84) p. 44 C.
- on Verdigris Coulee, fossils found in, (82-84) p. 52 C.
- section of upper part of, east of Pa-kow-ki Coulee, reference to description, (82-84) p. 45 C.
- section and fossils of, at Fossil Coulee, Milk River Ridge, (82-84) pp. 50-51 C.
- section exposed between Kippis Coulee and Middle Coulee, (82-84) p. 52 C.
- section on Belly River, near mouth, (82-84) p. 76 C.
- Belly Valley at Coal Banks, illustration showing bluffs of drift deposits, (82-84) facing p. 140 C.
- Belmont, big ore bed of, (76-77) p. 297.
- Belmont Lake, Peterborough Co., Ont., conglomerates of, (66-69) E. p. 158, F. p. 175.
- Belmont Tp., Ont., notes on deposits of magnetic iron ore in, (1863) p. 676.
- map on scale of 4 m. to an in., (66-69) E. p. 143, F. p. 159.
- iron ore bed of division B, Hastings Series, (66-69) E. p. 151, F. p. 168.
- veins of specular hematite, (66-69) E. p. 162, F. p. 179.
- assays for gold from lot 18, R. II., (66-69) E. p. 171, F. p. 190.
- mining operations, impurities of ore, Sand Pit bed, (66-69) E. p. 258, F. p. 286.
- reference to former reports on iron ores of, (66-69) E. p. 258, F. p. 286.

- Belmont Tp.—*Cont.*
 analyses of iron ores from Sand Pit bed, (66-69) E. p. 258, F. p. 286.
 notes on occurrence of gold and copper ores, (74-75) p. 160.
- Belceil Mountain, *see* Rouville Mt., Que., rocks of, (1863) p. 209.
 analysis of felspar from diorite of, (1863) p. 479.
 description of diorite from, with reference to analysis of felspars of, (1863) pp. 664-665.
- Belceil Seigniory, Que., saline spring, character of water, (1863) p. 354.
 analysis of mineral water from, (1863) p. 549.
- Belts of veins, Australia-Canadian gold fields, (70-71) p. 261.
- Belvidère mine, reference to, description, (63-66) p. 40.
- Beluga*, sp. from leda clay, mouth of Popogan River, N.B., (77-78) p. 23 EE.
 bones of, found near Montreal, Que., (1863) p. 319.
- Belyea's Cove, Washademoak Lake, N.B., Lower Carboniferous at, (72-73) pp. 191-192.
- Belyea's Inn, post-road to Fredricton, N.B., section of Huronian, (70-71) p. 113.
 contact of Kingston and Coastal series, (70-71) p. 123.
 shales of Primordial exposed near, (77-78) p. 33 DD.
- Belyea's Landing, Long Reach, N.B., fossiliferous shales of, (77-78) p. 33 DD.
- Benacadie Brook, N.S., felsites of, (76-77) pp. 408-410.
 falls of, talcose rocks, (76-77) p. 410.
- Benacadie Glen, N.S., Carboniferous rocks of, (76-77) p. 440.
- Benacadie Pond, N.S., Carboniferous rocks of, (76-77) pp. 439-440.
- Benches in Blackwater Valley, B.C., (76-77) p. 23.
 on Fraser Lake, B.C., height of, (76-77) p. 46.
 at Quesnel, B.C., (76-77) p. 18.
 near Qualcho Lake, general elevation, material in benches, (76-77) p. 39.
- BENDER, MR., height of mossy portage (western), (74-75) p. 61.
- Ben Eoin road, N.S., Laurentian rocks of, (76-77) p. 417.
 mineral spring of, (76-77) p. 455.
- Bengal road, Cape Breton Co., N.S., felsites of, (77-78) p. 8 F.
 Lower Silurian rocks on, (77-78) p. 11 F.
 rocks resembling Lower Silurian of Mira Basin, on southern part of, (77-78) p. 12 F.
- Benjamin River, N.B., granite of, used for mill stones, (79-80) p. 47 D.
 width of trap area on, (80-82) p. 19 D.
- BENNETT, FRANCIS, information from, (63-66) p. 38.
- Bennett Lake, band of Laurentian limestones, (73-74) p. 105, and (74-75) p. 151.
- Ben Noah, N.S., Inverness Co., rocks exposed at schoolhouse, (79-80) p. 105 F.
- Bensons Cove, Grand Manan Island, Triassic trap, (70-71) p. 220.
- Bentinck Tp., Grey Co., Ont., exposures of Guelph Formation in, (1863) p. 342.
 fresh water marl, locality for, (1863) p. 764.
- BENTLEY, MR., Marmora, Ont., information from, (63-66) p. 108.
- Benton, Carleton Co., N.B., belt of metamorphic and igneous rocks in Cambro-Silurian near, (82-84) p. 16 G.
 epidotic syenite, as ornamental stone, (82-84) p. 30 G.
- Benton Period, Cretaceous, condition of deposit, (79-80) p. 133 B.
- Berens River, survey made by A. S. Cochrane, 1882, (80-82) p. 16.
- BERNARD, COL., donations to museum, (82-84) p. 19.
- Berries used by Haidas for food, (78-79) p. 114 B.
- Berry Mountains, Gaspé, rugged country, height of peaks, (82-84) p. 10 E.
- Bersimis, Que., deposits of iron sand at, (66-69) E. p. 266, F. p. 294.
 analysis of iron sand from, (66-69) E. p. 268, F. p. 296.
- Berthier, Que., saline spring, note on, (1863) p. 534.
 analysis of water from Boucher's spring, (1863) p. 548.
 Lauzon rocks exposed on coast at, (66-69) E. p. 131, F. p. 146.
- Berthier Co., Que., analysis of samarskite from Brassard Tp., (80-82) p. 1 H.
- Bertie Tp., Ont., exposures of Onondaga Formation, (1863) p. 347.
 section of Helderberg limestone containing *Eurypterus remipes*, (1863) p. 354.
 exposures of Corniferous in, (1863) pp. 364-365.
 petroleum found in cavities in Corniferous Formation, (1863) p. 368.
 note on bitumen in certain beds of Corniferous, (1863) p. 378.
 petroleum in coralline beds referred to, (1863) p. 522.
 specimen of *Eurypterus remipes* from, (71-72) p. 14.
- Beryl, general note on mode of occurrence, (1863) p. 492.
 crystals found in Jonquière Tp., Saguenay District, Que., (82-84) p. 9 D.
- Bessemer process of producing cast steel, (66-69) E. p. 294, F. p. 325.
- Betula*, fossil species from V.I., (72-73) p. 68.
- Betula alba*, L., note on range of in Canada, (79-80) p. 55 C.
- Betula excelsa*, Ait., note on northern limit of in Canada, (79-80) p. 50 C.

- Betula lenta*, L., note on range of in Canada, (79-80) p. 55 C.
- Betula occidentalis*, Hook, character of in British Columbia, (79-80) p. 176 B.
- Betula papyracea*, Ait., note on range of in Canada, (79-80) p. 45 C.
note on distribution of in British Columbia, (79-80) p. 176 B.
- Betty Point, Merigomish Harbour, (66-69) E. p. 86, F. p. 96.
- Beverley, Bastard Tp., Ont., *Orthoceratites* and *Opheleta compacta* in upper beds of Potsdam, wood-cuts of orthoceras, (1863) p. 102.
- Bexley Tp., Victoria Co., Ont., the Trenton Group exposed in, (1863) p. 190.
- Bibliography of Prince Edward Island geology, (82-84) p. 4 E.
- Bicarbonates, note on presence of, in mineral waters of Canada, (1863) p. 557.
- Bic Harbour, Que, rocks of vicinity, Sillery green sandstones, (1863) p. 260.
fossils from upper divisions of Potsdam, (66-69) E. p. 130, F. p. 145.
- Bic, Que., collections of fossils made by Billings and Weston at, 1871, (71-72) p. 14.
coprolitic fossils at, (76-77) p. 435.
- Biche River, description, fall in from Lac la Biche to Athabasca River, rocks of, (82-84) p. 7 C C.
- Big Arm River, Qu'Appelle River, origin of name, height of land, ledges of sandstone, fossils, (73-74) p. 73.
- Big Arrow, Petitdegrat Is., N.S., sandstone and conglomerate at, (79-80) p. 38 F.
- Big Bald Mountains, Miramichi River, N.B., elevation of, character of granites of, (79-80) p. 32 D.
- Big Bay, Mazinaw Lake, Barrie Tp., gneiss series on, (72-73) p. 144.
- Big Beaver River, N.W.T., character of, at trail crossing, (79-80) p. 98 B.
- Big Berry Mountains, Gaspé, situation of, (82-84) p. 9 E.
- Big Black River, survey made by A.S. Cochrane, 1882, (80-82) p. 16.
- Big Boggy Creek, Man., description, (74-75) p. 31.
- Big Bonanza ledge, B.C., assay of quartz from, (76-77) p. 477.
- Big Brook road to West Bay, N.S., syenites and felsites of, (79-80) pp. 14-15 F.
- Big Brook, North Mountain, West Bay, N.S., crystalline limestone on sources of, (79-80) p. 17 F.
Carboniferous rocks overlying syenite, (79-80) p. 101 F.
grits, etc., of the Lower Carboniferous, (82-84) p. 38 H.
Carboniferous sandstones, (82-84) p. 40 H.
- Big Brook to Glendale, Inverness Co., N.S., section of Carboniferous rocks, (79-80) pp. 97-99 F.
- Big coal seam, Saskatchewan River, analysis of coal from, (73-74) p. 63.
section obtained for Centennial Exhibition, (75-76) p. 288.
analysis of coal from, (79-80) p. 135 B.
analysis and calorific power of, (82-84) pp. 13-14 M.
- Big Cut-arm Creek, width and depth of valley, (73-74) p. 26.
- Big Duck Island, off Grand Manan, section of pre-Cambrian, (70-71) p. 110.
- Big Harbour, N.S., gypsum at, (76-77) pp. 444, 464.
- Bighead River, Ont., indentation in outcrop of Clinton Formation, (1863) p. 315.
Grey Co., Ont., exposures of Niagara Formation on sides of valley, (1863) p. 328.
terraces and ridges of sand and gravel at mouth of, (1863) p. 911.
- Big Inlet Lake, Laurentian rocks of, (72-73) p. 101.
glacial striæ on, (74-75) p. 44.
- Big Intervale, Margaree, N.S., herd of caribou seen at, (80-82) p. 7.
pre-Cambrian rocks of, (82-84) p. 24 H.
- Big Island, Belly River, outcrops of coal seams at, (80-82) p. 12 B.
outcrop of coal leaves the river, (80-82) p. 73 C.
- Big Island, Peace River, contorted rocks, gypsum, (75-76) p. 90.
- Big Island Pond asbestos mine, S. Ham Tp., note on asbestos, (80-82) pp. 7-8 G G.
- Big Island, Thunder Bay, rocks of, (66-69) E. p. 325. F. p. 358.
- Big Knife Portage, International boundary, rocks of, (72-73) p. 94.
- Big Muddy River, 49th parallel, N.W.T., (345-mile Valley), analysis of ironstone, (73-74) p. 241.
percentage of iron in clay ironstone, (73-74) p. 242.
- Big ore bed, Crow Lake, Peterborough Co., extent of workings, output, etc., (66-69) E. p. 161, F. p. 178.
of Division B, Hastings Series, (66-69) E. p. 151, F. p. 168.
example of serpentine with magnetite at, (73-74) p. 204.
pyrites associated with magnetite, (73-74) p. 204.
anticlinal and synclinal fold in, (76-77) p. 297.
- Big Pond iron ore, note on, Cape Breton, N.S., (79-80) p. 122 F.
- Big Pond, N.S., anticlinal axis passing through, (74-75) p. 230.
Sydney main seam, thickness at, (74-75) p. 236.

Big Pond, N.S.—Cont.

hematite deposit at, description and analysis of, (74-75) p. 263.
analysis of iron ore by Prof. Noad, (75-76) p. 415.

Laurentian rocks at, (76-77) p. 418.

iron ore at, (76-77) p. 449.

note on iron ore of, (79-80) p. 122 F.

Bigsby, Dr. J. J., reference to work in Canadian geology, (1863) p. x.

on Azoic rocks of the North-west, reference to gneisses of Rainy Lake and Lake Lacroix, (1863) p. 65.

Bigsby Islet, Darwin Sound, Q.C.Is., B.C., description of, (78-79) p. 23 B.
rocks of, (78-79) p. 57 B.

Bigsby Island, Lake Huron, situated on line of outcrop of Trenton, (1863) p. 195.

Big Salmon River, St. John, N.B., section and rocks exposed on, (77-78) pp. 7-8 D.

Big Sevoyle R., N.B., Cambro-Silurian rocks of, (79-80) p. 29 D.

Big Stone Bay, Lake of the Woods, note on granitic intrusions and relation of gold-bearing areas to, (82-84) pp. 6-7 K.
description of gold locations and lodes in district of, (82-84) pp. 8-18 K.

Big South-west Brook, Aspy River, N.S., felsite, schists, etc., of, (82-84) p. 19 H.

BILLINGS, E., sketch of work done by, previous to 1863, (1863) p. vii.

fossils determined by, from Manitoulin Islands, (63-66) p. 176.

fossils determined from St. Dennis and Bic Harbour, (66-69) E. p. 130, F. p. 145.

fossils identified from Rivière du Loup, Que., (66-69) E. p. 133, F. p. 149.

list of fossils by, from Rock Brook, N.B., (66-69) E. p. 190, F. p. 211.

summary of work for 1869, notice of paper on legs of Trilobites, (69-70) p. 11 Summ.
work of 1870 on fossils from below Quebec, (70-71) p. 9.

fossils from Drury's Cove, N.B., determined by, (70-71) p. 140.

fossils from Black Bay, N.B., pronounced Upper Silurian, (70-71) p. 161.

on probable age of *Eophyton* from N.S., (70-71) pp. 269-270.

collections made at Bic, Que., in 1871, (71-72) p. 14.

work of, for 1871, study of Lower Potsdam and Guelph fossils, (71-72) p. 14.

on fossils found in Lower Cache Creek Series, B.C., (71-72) p. 62.

summary report of Palæontological work for 1872-73, (72-73) pp. 2-5.

notes on Cretaceous of West Coast, (72-73) pp. 71-75.

summary of work by, during 1873-74, notice of publication of Palæozoic Fossils, Pt. I., Vol. II., (73-74) p. 5.

note on fossils from Ballinac Islands, B.C., (73-74) p. 98.

BILLINGS, E.—Cont.

summary of work during 1874-75, (74-75) p. 10.

failing health, prevents publication of Part II., Palæozoic Fossils, (75-76) p. 5.

death of, (76-77) p. 5.

BILLINGS, W. R., fossils presented to museum, (80-82) p. 24.

donations to museum, (82-84) p. 19.

Biotite, mode of occurrence in Laurentian, (63-66) p. 210.

Birch Island, near Harbour Island, Gulf of St. Lawrence, Calciferous of, fossils, (1863) p. 122.

Birch Island, St. Croix River, N.B., large boulders at, (82-84) p. 10 GG.

Birch, notes on northern limit of on Nelson and Hayes rivers, (78-79) p. 43 C.

notes on range of species in Canada, (79-80) pp. 45-46 C.

of British Columbia, note on, (79-80) p. 176 B.
of Dog Lake, note on, supply of bark for canoes for Fort William, (1863) p. 64.

Birch Lake, Bedford Tp., Ont., apatite-bearing band, (70-71) p. 315.

Birch River, branch of Saskatchewan River, description of, (79-80) p. 10 C.

Birchtown, Guysborough, N.S., Devonian rocks, (79-80) p. 47 F.

Bird Islands, Cape Dauphin, N.S., formed of Millstone Grit, (74-75) p. 183.

Bird Lake, Bedford Tp., Ont., plumbago found with quartz on, (1863) p. 795.

Bird masks used by Haida Indians, see also plate VI., (78-79) p. 138 B.

Birdseye and Black River Formations, woodcuts of fossils of, (1863) pp. 139-153.

line of outcrop in Central Ontario, (1863) pp. 183-187.

fossils of, found at Colls Bay, Georgian Bay, (1863) p. 192.

Birdseye Formation in Canada, descriptions of sections, etc., characteristic fossils, see Trenton Group, (1863) p. 136-197.

on Allumette Island, (76-77) p. 277.

origin of name, general characters, typical section at Montreal, (1863) pp. 136-137.

Birds, game, of the Bras d'or Lakes, (76-77) p. 403.

collected between Norway House and Forts Churchill and York, (78-79) pp. 67-70. C.

of Hudson Bay and Labrador, list of and notes on, (82-84) pp. 54-56 DD.

Bird-tail Creek, Man., Journal of Dr. Selwyn, Ellice trail crossing at, (73-74) p. 25.

Bischoff Islands, Juan Perez Sound, Q.C.Is., B.C., description of, (78-79) p. 21 B.

Bishops Brook, Bay of Fundy, note on workings for copper at, (82-84) p. 20 L.

Bishop Pit, Templeton, crystals of chabazite, found at, (77-78) p. 35 G.

- Bismuthite, occurrence of, on Little Shuswap Lake, B.C., (77-78) p. 101 B.
- Bismuth, note on occurrence in Tudor Tp., Hastings Co., (66-69) E. p. 171, F. p. 190. of the Cameron lode, Charlotte Co., N.B., (76-77) p. 344.
occurrence of on Little Shuswap Lake, B.C., (77-78) p. 162 B.
from Eagle Head copper mine, N.S. note on, (77-78) p. 28 F
at Smith's mine, Tudor Tp., Ont., note on, (82-84) p. 9 L.
- Bissonette's Mine, Upton, Que., note on, copper ores at, (1863) p. 713.
- Bitter hickory, note on range of, in Canada, (79-80) p. 53 C.
- Bitter-spar, occurrence of at Leeds, noted, (1863) p. 456.
- Bitterns, probable origin of magnesia and potash beds, (63-66) p. 264.
- Bitumen, note on presence of, in various rock formations in Western Ontario, Gaspé and Eastern Townships, origin of, (1863) pp. 521-528.
Mr. Wall on origin of in Trinidad, (1863) p. 526.
origin of, note on, (1863) pp. 526-527.
and petroleum, notes on economic relation and notes on Gaspé petroleum, (1863) pp. 785-792.
alteration-products of, coal-like matter in Quebec Group, (anthraxolite), (1863) p. 524.
altered to coal in rocks of Les Islets, Que., (1863) p. 264.
from Athabasca district, discussion on value and uses of, (82-84) pp. 32-35 CC.
in corals of Bertie Tp., Ont., examination of, (1863) p. 524.
in Corniferous Formation, general note on, (1863) pp. 378-379.
from McKenzie Point, Pleasant Bay, N.S., referred to, (82-84) p. 93 H.
in Quebec Group, (63-66) p. 262.
solid, *see* Asphalt.
reported from Tar Islands, Q.C.Is., B.C., (78-79) p. 60 B.
- Bituminous coals, *analyses of*, *see Part II., page 23, for full list.*
comparative table of analyses of, (66-69) E. p. 380, F. p. 421.
prejudice against use as steam coals, (66-69) E. p. 426, F. p. 475.
late experiments on consumption without smoke, (66-69) E. p. 427, F. p. 476.
loose pieces found on Albany River, (71-72) p. 112.
from British Columbia, table of analyses of, (76-77) facing p. 470.
Nanaimo and Comox coal fields, notes on, (72-73) pp. 76-81.
of Pine River, Peace River, geological position of, (75-76) p. 74.
of Southern New Brunswick, note on, (70-71) p. 229.
- Bituminous dolomitic limestone of Manitoulin Islands, (63-66) p. 179.
- Bituminous limestone of east end Grindstone Is., Magdalen Is., Que., fossils of, note by J. W. Dawson, (79-80) p. 7 G.
- Bituminous sand-rock from Athabasca River, N.W.T., mode of occurrence, analysis, economic uses of, (80-82) pp. 3-5 H.
- Bituminous shales, general note on, compositions, reference to analyses, (1863) pp. 784-785.
of the Utica Formation, analyses of examples from Ont. and Que., (1863) p. 622.
economic importance of, in Albert and Westmoreland Counties, N.B., (76-77) p. 393.
below Bonaventure Formation, in Gaspé, exposures on Middle River, Port Daniel, Que., (1863) p. 445.
from Bosanquet, Ont., analysis of, (1863) p. 627.
reference to experiments with, (1863) p. 785.
of Gaspé, note on, (1863) p. 785.
note on, occurrence of, localities cited, Collingwood, Kettle Point, (1863) p. 528.
of Collingwood, results of distillation of, (1863) pp. 784-785.
in Devonian of N.Y., Marcellus shale, (1863) p. 380.
in Hamilton Formation, at Bosanquet, analysis of, (1863) p. 627.
localities in Hamilton Formation, (63-66) p. 242.
of Hamilton Formation contain no petroleum, (63-66) p. 254.
of Kings County, N.B., similar to Albert shales, (78-79) p. 16 D.
of the Manitoulin Islands, (63-66) p. 179.
of Mackay Brook, C.B., (76-77) p. 438.
in Portage Group, description of exposures at Kettle Point, Bosanquet Tp., Ont., (1863) pp. 387-388.
in Utica Formation, at Ste. Anne de Montmorenci, (1863) p. 199.
of Southern New Brunswick, (70-71) p. 230.
- Black alder, note on range of in Canada, (79-80) p. 55 C.
- Black ash, note on northern limit of in Canada, (79-80) p. 48 C.
- Black area, Springhill, N.S., coal seams known in 1870, (70-71) p. 6.
- Black Bay, Lake Superior, probably worn out of marls of upper part of series, (1863) p. 78.
rocks of south-east side, (1863) p. 78.
gness and syenite on, (66-69) E. p. 328, F. p. 362.
rocks of peninsula east of, (66-69) E. p. 331, F. p. 366.
soil forming good land about, (66-69) E. p. 355, F. p. 393.
- Black Bay, Lake Athabasca, specimen of magnetite from, (82-84) p. 31 CC.
- Black Bay, N.B., Upper Silurian of north side, fossils of, beds exposed on, (70-71) p. 161.

- Black Bear Creek, B.C., placer workings on, (76-77) p. 137.
- Black birch, note on range of in Canada, (79-80) p. 55 C.
- Black Brook, Middle River, N.S., feldites of, traces of copper and iron ore in, (82-84) pp. 8-9 H.
pre-Cambrian rocks of, (82-84) p. 18 H.
sandstone and conglomerate in Lower Carboniferous of, (82-84) p. 41 H.
general note on character of country, (82-84) p. 79 H.
- Black Brook of River Inhabitants, Inverness Co., N.S., character of, (79-80) p. 112 F.
near Chatham, N.B., coal seams of, (79-80) p. 7 D.
- Black Cañon, Thompson River, B.C., Mesozoic rocks of, (77-78) p. 111 B.
- Black Cape, Bay of Chaleurs, mass of trap constituting, (1863) p. 447.
rocks similar to Port Daniel section, (1863) p. 448.
diorite rocks, Lower Carboniferous rocks near, conglomerates belonging to Devonian and Carboniferous, (80-82) p. 8 D.
Devonian rocks of vicinity, (80-82) p. 12 D.
contact of Silurian rocks with trap of, (80-82) p. 13 D.
trap rocks breaking into Silurian and not the Devonian, (80-82) p. 19 D.
note on apatite deposit at, (80-82) p. 22 D.
phosphoric acid in trap at, (80-82) p. 16 H.
list of Silurian fossils from near, (82-84) p. 27 E.
- Black cherry, note on occurrence of in Canada, (79-80) p. 54 C.
- Black Coal Mine Brook, Newcastle River, N.B., exposures on, (72-73) p. 204.
- Black Duck Hole, Lepreau Basin, Devonian sandstones and shales, (70-71) p. 177.
- Blackfeet Lake and River north of Cumberland House, description of, (79-80) pp. 11-12 C.
- Blackfoot Crossing, Bow River, Alta., analysis of lignite, (79-80) p. 12 H.
analyses of lignite from near, (82-84) pp. 19-20 M.
coal seam, note on outcrops of with analyses, (80-82) pp. 15-17 B.
coal seam, estimate of available quantity of coal, (82-84) p. 128 C.
coal seam, exposure of, on Little Bow River, (82-84) p. 80 C.
note on outcrops of coal seams at and in coulées near, (80-82) pp. 15-16 B.
outcrops of coal, coal bearing area, (82-84) pp. 86-87 C.
estimated quantity of coal under one square mile, (80-82) p. 22 B.
character of river-valley at, (82-84) p. 32 C.
section of beds exposed near, (82-84) pp. 85-86 C.
- Blackfoot names of places in Southern Alberta, (82-84) pp. 158-166 C.
- Black iron ore from Hull furnaces, Que., analysis of, (66-69) E. p. 254, F. p. 281.
- Black Lake, N. Burgess Tp., section of Laurentian on, (72-73) pp. 164-165.
crystalline limestone found on, (72-73) p. 167.
large vein of orthoclase and quartz, (72-73) p. 169.
- Black-lead, *see* Graphite and Plumbago.
uses of, in arts and manufactures, (1863) p. 793.
- Black maple, occurrence of at Grenville, Que., (79-80) p. 54 C.
- Black mica-schists on Kwa-kash-kagama River, (70-71) p. 344.
- Black's mill-site, McLellan's Brook, N.S., rocks at, (66-69) E. p. 21, F. p. 24.
- Black mine, Springhill coal-fields, N.S., situation of, coal seams, (66-69) E. p. 447, F. p. 499.
- Black Point Brook, N.S., felsite rocks at, (82-84) p. 20 H.
- Black Point, N.S., Capel Point coal seams, outcropping near, (74-75) p. 235.
Bay of Chaleurs, dolerite or diabase cutting Silurian, (79-80) p. 41 D.
Lake Temiscouata, Que., conglomerates of, (1863) p. 421.
- Black River Formation. description of, exposures in Canada, characteristic fossils, etc., *see* Trenton Group, (1863) pp. 136-197.
on Allumette Is., (76-77) p. 277.
relation to Birdseye and Trenton, sections at Montreal, (1863) pp. 136-137.
from Lake Couchiching, Ont., analysis of limestone, (1863) p. 621.
- Black River mine, St. Flavien, Que., situation of, diorite-bearing copper ores, (1863) p. 719.
descriptions of veins and ores of, (1863) p. 720.
- Black River, St. John Co., N.B., "Primary" rocks according to Gesner, (70-71) p. 20.
schists, slates and diorites, Coastal Group, (70-71) p. 98.
narrow belt of St. John Group, (70-71) p. 139.
Dadoxylon sandstone and overlying conglomerate, (70-71) p. 175.
character of rocks of pre-Silurian belt, (77-78) p. 9 DD.
association of Devonian and pre-Silurian rocks, (77-78) p. 22 DD.
note on exposures of Primordial on, (77-78) p. 32 DD.
- Black River, Cumberland Co., N.S., great fault on north side of, (73-74) p. 168.
analysis of bituminous coal from, (78-79) pp. 11-12 H.
- Black River, West Bay, N.S., Carboniferous rocks near mouth, section on mill-stream, (79-80) p. 68 F.
pre-Cambrian rocks, limestone, landslide, gypsum, (79-80) p. 69 F.

- Black River, Algoma, Ont., trace of copper ore in schists of, (70-71) p. 348.
reference to metallic lodes in lower group of Upper Copper-bearing rocks, (1863) p. 76.
galena location at mouth of, note on, (1863) p. 690.
copper bearing veins in granitoid gneiss, (1863) p. 694.
note on veins of copper ores, (1863) p. 705.
galena carrying silver, references to, (1863) p. 738.
terraces above lake, near, (1863) p. 913.
at junction with Pic River, red granite at, (70-71) p. 328.
note on valley of, (70-71) p. 336.
description of river, Huronian schists, (70-71) p. 346.
portages on, list of, (70-71) p. 347.
- Black River, Quebec and Maine, U.S., conglomerates of Gaspé Series on, (1863) p. 427.
serpentines on, in Montmagny Co., (66-69) E. p. 137, F. p. 153.
syenite on, (76-77) p. 289.
- Black River road, Simonds Tp., N.B., section of pre-Silurian, schistose group, (77-78) p. 21 DD.
- Black River Settlement, N.B., raised beaches, height of, (77-78) p. 31 EE.
- Blackrock, N. E. Margaree River, N.S., pre-Cambrian rocks of, (82-84) p. 24 H.
minerals found in amygdaloid of, (82-84) p. 26 L.
- Blackrock coal seam, south of Point Aconi, C.B., (74-75) p. 247.
- Blackrock Point, Louisburg, N.S., building stone used in old fortifications, (77-78) p. 32 F.
dark felsites of, (75-76) p. 379.
- Black Rock mine, Colchester Co., N.S., note on manganese deposit, (82-84) p. 23 L.
- Black sand, no indicator of gold, (63-66) p. 86.
- Black seam, Springhill, N.S., traced to Hibbard Pit, (73-74) p. 148.
- Black Settlement, on Black River, N.B., fault, downthrown on north side, (70-71) p. 179.
- Black shales of lower part of Quebec Group, position in series, probable age, (1863) pp. 234-235.
petroleum in, examples in Canada, (63-66) p. 244.
absent in Enniskillen Tp. and on Thames River, Ont., (63-66) p. 246.
- Acadia Colliery, Pictou, N.S., barren measures above seam, (66-69) E. p. 98, F. p. 110.
on Abitibi River, description of, (77-78) p. 36 C.
in barren measures, Pictou coal-field, (66-69) E. p. 66, F. p. 74.
of lower part of Pictou Coal-measures absent in vicinity of McDonald's house, near east fault, (66-69) E. p. 40, F. p. 45.
- Black shales—*Cont.*
overlying Acadia, N.S., seam, similar to Foord pit, fossils of, (66-69) E. p. 80, F. p. 89.
west of Potters Brook, N.S., thickness of, (66-69) E. p. 49, F. p. 51.
- Black spruce, note on range and distinctive characters of, (79-80) p. 44 C.
- Black Sturgeon Lake, Thunder Bay district, geographical description of, (66-69) E. p. 333, F. p. 367.
sand of the beaches, (66-69) E. p. 356, F. p. 394.
surveys of, how made, (66-69) E. p. 316, F. p. 348.
- Black Sturgeon Bay, Lake Nipigon, rocks of Chiatang's Bluff, (66-69) E. p. 345, F. p. 382.
- Black Sturgeon River, geographical and geological descriptions, (66-69) E. pp. 334-336, F. pp. 369-377.
specular iron found in gneiss, (66-69) E. p. 358, F. p. 396.
salt springs, (66-69) E. p. 362, F. p. 401.
valley of, additional notes of 1872, (72-73) pp. 97-98.
- Black thorn, note on, occurrence of in Canada, (79-80) p. 55 C.
- Black trap, of north shore of Michipicoten Island, (63-66) p. 138.
- Black walnut, note on, range of in Canada, (79-80) p. 53 C.
- Black Warrior claim, Omineca District, B.C., width of galena vein, (79-80) p. 110 B.
- Black Warrior vein, Omineca, B.C., analysis of galena from, (79-80) p. 111 B.
- Blackwater Bridge, B.C., rocks of Lower Cache Creek Group, description of exposures, bed with anthracitic carbon, (75-76) p. 249.
illustration showing terraces near, (75-76) facing p. 262.
to Fort George, B.C., description of country near direct trail east of Chilacco River, (75-76) pp. 244-245.
to Quesnel, general description, (76-77) p. 18.
to Eu-chen-i-ko River, B.C., general description, (76-77) p. 20.
- Blackwater depot, B.C., journey by Dr. Selwyn and Mr. Webster to, (75-76) p. 67.
- Black Water River, Lake Nipigon, trap extends beyond, (66-69) E. p. 341, F. p. 377.
- Blackwater River, B.C., crossing of at Cluscus Stream, (76-77) p. 24.
the Upper Cañon of, (75-76) p. 243.
description of, from Nazco River to Upper Cañon, (75-76) p. 243.
description of valley from Upper to Lower Cañon and near Fraser River, level country north of, (75-76) p. 244.
- Lower Cache Creek Group on, notes on exposures at Upper and Lower cañons of, (75-76) pp. 248-249.

- Blackwater River, B.C.—Cont.**
 drift lignite in Upper Cañon, (75-76) p. 255.
 exposures of lignite above bridge, (75-76) p. 256.
 list of plant remains, note by J. W. Dawson, (75-76) p. 260.
 boulders and drift on hills near Upper Cañon, (75-76) p. 262.
 yellow gravels of, (75-76) p. 263.
 basin of, report by G. M. Dawson with map (76-77) pp. 17-149.
 height of at bridge, (76-77) p. 20.
 fall on, description of valley, (76-77) p. 23.
 sources of, near Il-ga-chuz Mountains, B. C., (76-77) p. 38.
 Tertiary rocks near, (76-77) p. 80.
 drift lignite on, (76-77) p. 146.
 to Fort George, B.C., general description, (75-76) pp. 243-245.
 geological observations, (75-76) pp. 246-265.
- Blackwater Valley, B.C., terraces in, (75-76) p. 33.**
 flora of vicinity of, (75-76) p. 130.
 illustration showing view near bridge, (75-76) facing p. 244.
- Black Whale Harbour, assay of pyrites from, (78-79) p. 21 H.**
- BLAIKLOCH, MR., P.L.S., survey of Ashuapmouchuan River, (70-71) p. 283.**
- Blais River, Inverness Co., N.S., rocks of pre-Cambrian area, (82-84) p. 19 H.**
- Blairton, Ont., note on iron ore bed in Belmont Tp., (73-74) p. 196.**
 epidote associated with magnetite, (73-74) p. 200.
- Blairton iron mines, Belmont, Ont., statistics for 1870, (71-72) p. 147.**
 cost of labour, (73-74) p. 242.
 cost of mining iron ore, (73-74) p. 244.
 cost of transport of iron ores to Pittsburg, (73-74) p. 246.
 note on production, (73-74) p. 257.
- Blaisdell's mill, Gatineau River, Que., apatite found at, (1863) p. 461.**
- Blake Tp., Ont., band of diorite cutting slate rocks, (72-73) p. 92.**
- Blanc Sablon, Str. of Belle Isle, references to Potsdam sandstone at, (1863) p. 97.**
 reference to description of rocks of, (82-84) p. 10 DD.
- Blankets, value of, used as currency by Haida and West Coast Indians, (78-79) p. 135 B.**
- Blast Furnaces in Canada, list of, notes on workings of each, (73-74) pp. 246-259.**
 at Hull, Que., charges used, (66-69) E. p. 254, F. p. 281.
 ore and fuel employed, (66-69) E. p. 255, F. p. 281.
- BLAKE, W. P., on gold washing, (1863) p. 743.**
- Blende, zinc, note on occurrence of, in Ontario and Quebec, (1863) p. 514.**
 veins of, at Point aux Mines, Lake Superior, refuse from early mining, (1863) p. 702.
- Blende—Cont.**
 and galena with copper ores, Otter Head, Lake Superior, (1863) p. 705.
 with copper and silver ore, Prince's mine, Lake Superior, (1863) p. 708.
 at the Victoria mine, Garden River, Ont., (76-77) pp. 212-213.
- Bligh area, Springhill, N.S., work done in, section at Hickman's slope, (73-74) p. 160.**
- Blind Bay, Shuswap Lake, B.C., calcareous belt, (Nisconlith Series) Division B, (77-78) p. 96 B.**
- Blind River, Ont., Huronian limestone band reaches Lake of the Mountains, (1863) p. 841.**
- Blindman Creek, N.W.T., friable sandstones at trail-crossing, (73-74) p. 39.**
 thin layer of lignite, (73-74) p. 39.
- Bliss Island, Charlotte Co., N.B., red conglomerates of, (70-71) p. 86.**
- Blissville Stn., N.B., pale lilac felsites overlying Shin Creek rocks, (72-73) p. 187.**
- Block House mine, C.B., thickness of seam, quality of coal, shale in seams of coal, (72-73) p. 277.**
 history of, (72-73) p. 277.
 works and machinery, (72-73) pp. 278-279.
 underground works, ventilation and drainage, (72-73) p. 280.
 production of coal, (72-73) p. 281.
 analysis of mineral water from, (72-73) p. 281.
 statistics, history, force employed, etc., (72-73) p. 290.
 improvements made in wharf and plant, (74-75) p. 211.
- Block House seam, Cow Bay, C.B., rock masses in, (74-75) pp. 201-202.**
 section of, (74-75) p. 207.
 probably same as Victoria seam, Sydney, N.S., (74-75) p. 229.
 position, thickness, quality of coal, lenticular masses of shale, (72-73) p. 277.
 description and analyses of, (72-73) p. 290.
- Blood Indian names of places in Southern Alberta, (82-84) p. 167 C.**
- Bloods Corners, St. Armand, Que., outcrop of Divisions A and B, Phillipsburgh series, (1863) pp. 847-848.**
- Bloom-iron, various processes of making, (66-69) E. pp. 288-293, F. pp. 318-323.**
- Bloomy furnaces, introduction of and improvements in, production of iron in 1856 in U.S., (66-69) E. pp. 274-275, F. p. 303.**
- Bloomy hearths, description of by T. S. Hunt, (66-69) E. p. 277, F. p. 306.**
 working of, description, (66-69) E. p. 278, F. p. 307.
 description of workings at East Middleburg, (67-69) E. p. 279, F. p. 309.
 description of workings at Moisie, (66-69) E. p. 280-281, F. p. 309-310.
 description of workings at New Russia, (66-69) E. p. 279, F. p. 308.

- Bloomary iron, cost of producing in N.Y., (66-69) E. p. 285, F. p. 315.
- Blooms from cast iron, cost in Sweden and New Jersey, (66-69) E. p. 285, F. p. 315.
- Bloomsbury conglomerate of N.B., thickness, position in series, (70-71) p. 170.
- exposures in Musquash River, (70-71) p. 176.
- Bloomsbury Group of Matthew, characters of, (70-71) p. 23.
- Bloomsbury Group, Huronian, distribution of in N.B. (referred originally to Devonian), (70-71) p. 60.
- Bloomsbury Hill, St. John Co., N.B., age of rocks, succession of beds, (70-71) p. 64.
- Bloomsbury Mountain, Simonds Tp., N.B., character of pre-Silurian belt, section of, (77-78) pp. 9-10 DD.
- Blow-hole, Mal Bay, Gaspé, rocks of Bonaventure Formation at, (1863) p. 438.
- fossils found in Devonian rocks of, (80-82) p. 9 DD.
- Blue apatite, locality in Wakefield, where found, (80-82) p. 12 GG.
- Blue beach, range of in Canada, (79-80) p. 52 C.
- Blueberry Plains, Chateauguay Co., Que., character of Potsdam sandstone, (1863) pp. 88-89.
- Blueberry River, Lake St. Francis, Que., intrusive mass of granite at mouth of, (1863) p. 430.
- Blues Brook, Inverness Co., N.S., George River limestones of, (82-84) p. 33 H.
- Blue Cape, Antigonish Co., N.S., Carboniferous rocks of, oolitic fossiliferous limestones, (79-80) p. 61 F.
- Blue iron-earth, Vaudreuil seignory, Que., along edge of ochre bed, (1863) p. 770.
- Blue Lakes, near Irish settlement, Cascapedia River, grey marl in, (80-82) p. 20 D.
- Blue Ledge, Nipisiguit River, N.B., pre-Cambrian gneisses of, (79-80) p. 31 D.
- Blue Mountain ridge, Collingwood Tp., Ont., characters of Niagara rocks at, (1863) p. 328.
- ridges of sand at base of, (1863) p. 911.
- Blue Mountain, Tobique Valley, N.B., height, eruptive rock of, (66-69) E. p. 203, F. p. 225.
- Blue Mountain, Queens Co., N.B., rocks of, (70-71) p. 67.
- Blue Mountain, Kings Co., N.B., fossils from Upper Silurian near, (70-71) p. 167.
- Blue Mountains, N.S., felsites of, copper mine, (77-78) p. 5 F.
- Blue Point, Lake St. John, Que., collection of fossils made by McOuat, 1871, (71-72) p. 14.
- Blue River, North Thompson River, B.C., exploring trail up North Thompson, crossing of, (71-72) pp. 31-32.
- granites and limestones, (71-72) p. 65.
- Blue River Bluff, North Thompson River, making trail round, height of, (71-72) p. 33.
- Blue Spring, Brant Tp., Ont., partial analysis of water, (1863) p. 535.
- Blue's Mills, Inverness Co., N.S., Carboniferous rocks, indications of gypsum, (79-80) p. 101 F.
- Bluff Island, Charleston Lake, Leeds, Ont., section of Potsdam on, (1863) p. 92.
- Bluish clays, Virago Sound and Naden Harbour, Q.C.Is., B.C., (78-79) p. 94 B.
- Blunden Point, brown sandstones of Nanoose Harbour, V.I., B.C., (71-72) p. 81.
- Blythfield Tp., Ont., thickness of hornblende rock in, (1863) p. 24.
- contorted gneiss in limestone of, wood-cut of section, (1863) p. 27.
- crystalline limestone in Laurentian, (1863) p. 31.
- note on pyroxene and hornblende vein at Ragged Chute, High Falls, (1863) p. 35.
- Renfrew series of mica-schists and diorites in, (70-71) p. 311.
- gneiss of, (76-77) p. 249.
- Boarsback, definition of term as applied to gravel ridges in, N.B., (77-78) p. 12 EE.
- Boars Head, St. John River, N.B., Lower Carboniferous rocks at, (70-71) p. 207.
- Boat route, Lake Winnipeg to Hudson Bay, list of glacial striae, (77-78) p. 27 CC.
- list of strikes of gneiss, (77-78) p. 9 CC.
- report by Dr. Bell, with map on scale of 8 m. = 1 in., (77-78) pp. 3-10, 24-31 CC.
- Boat Harbour, south-east of Nanaimo, B.C., rocks at, (76-77) p. 182.
- Bobcaygean Rapids, near Sturgeon Lake, Ont., rocks exposed, (1863) p. 190.
- Bobs Lake band, crystalline limestone, characters, distribution, graphite and magnetite, (73-74) p. 106.
- part of group V. Lanark, (74-75) p. 151.
- Bobs Portage, Manitowaning Bay, surface oil springs, (63-66) p. 179.
- Bocabec, Charlotte Co., N.B., diorites and syenites, (70-71) p. 187.
- Bocabec Bay, Passamaquoddy Bay, N.B., crystalline rocks of, (70-71) p. 52.
- diorites and syenites representing Nerepis granite, (70-71) p. 187.
- Bocabec Lake and River, N.B., crystalline rocks of, (70-71) p. 52.
- Bocabec Lakes (Upper), N.B., pale red granites, intrusive, (70-71) pp. 32-187.
- Bocabec River, Passamaquoddy Bay, Mascarene series exposed on banks of, (70-71) p. 150.
- Bocanes or Smoky Hills, on Smoky River, N. W.T., (75-76) p. 73.
- description of, (79-80) p. 57 B.
- localities, cause of combustion, (79-80) p. 123 B.
- BODEGA, FRANCISCO DE LA, note on voyage of to vicinity of Q.C.Is., B.C., (78-79) p. 8 B.
- Böetius' gas furnace used in zinc smelting, (66-69) E. p. 298, F. p. 330.

- Bog iron-ores**, composition, origin and localities of occurrence in Ontario and Quebec, (1863) pp. 510-512.
 general description of, (1863) p. 682.
 comparative table of analyses, (73-74) p. 237.
 descriptions of local deposits in Ontario and Quebec, (1863) pp. 682-687.
 age and characters of, (73-74) p. 234.
 yield in blast furnaces, organic matter as reducing agent, character of iron produced, (73-74) p. 235.
 cost at St. Maurice forges, (73-74) p. 248.
 localities visited by B. J. Harrington, (73-74) pp. 235-236.
 from Brandon Hills, Man., metallic iron in, (82-84) p. 17 MM.
 in Cape Breton, (76-77) p. 450
 deposits of Champlain Co., Que., note on, (1863) p. 685.
 mode of occurrence at Manguerville, N.B. (82-84) pp. 46-47 GG.
 in Lower Silurian area at Mira Lake, C.B., (77-78) p. 12 F.
 from L'Islet, Que., magnetite formed in laboratory from, (73-74) p. 195.
 localities in St. Vallier and Kamouraska, Que., (66-69) E. p. 140, F. p. 156.
 occurrence at Schooner Pond, Cape Breton, (74-75) p. 262.
 from Thurlow Tp., lot 16, R. IX., analysis of, (78-79) p. 15 H.
- Bog manganese localities** in E. Townships, Que., Bolton and Stanstead, (1863) p. 752.
 Big Harbour, Boulardrie I., N.S., analysis of, (80-82) p. 12 H.
 occurrence at Fredericton, N.B., (82-84) p. 47 GG.
 from St. Maurice, Que., note on, (1863) p. 507.
- Bogs** in valley of Kenogami River, (70-71) p. 341.
- Boggy Creek**, Man, character of surface deposits, (73-74) p. 24.
- Bois Brulé Station**, C.P.R., Ont., strike and character of Huronian rocks, (80-82) p. 12 C.
- Boisdale**, N.S., character of Carboniferous conglomerate at, (75-76) p. 397.
 felsites of, (76-77) pp. 407-414.
 iron ore of, (76-77) p. 450.
- Boisdale Hills**, N.S., height and composition of rocks of, (75-76) p. 370.
 felsites of, (75-76) pp. 374-377.
 Laurentian rocks of, (76-77) p. 405.
 Carboniferous rocks at (76-77) p. 439.
- Boisdale Road**, N.S., granites, gneisses and mica-schist, (75-76) p. 377.
- Bolboporites Americanus**, Billings, wood-cut of, (1863) p. 124.
- Bolducs' Creek**, Vaudreuil Seig, Que., quartz veins, (63-66) p. 74.
- Boletina scudleri** Scudder, description of fossil from Quesnel, B.C., (75-76) p. 271.
- Bolivia**, alluvial gold-field of, (63-66) p. 88.
- Bolkus Islands**, Skincuttle Inlet, Q.C.Is., B.C., description of, (78-79) p. 19 B.
 limestone, bands of, (78-79) p. 52 B.
 Cretaceous outlier on south-western point of, (78-79) p. 54 B.
 evidence of elevation, (78-79) p. 95 B.
- Boltons Creek**, Frontenac, Ont., dividing dolomites from diorites, (74-75) p. 148.
 band of crystalline limestone, character and distribution of, (73-74) p. 104.
- Bolton**, Mass., only known locality for mineral petalite, (1863) p. 481.
- Bolton Tp.**, Que., note on occurrence of magnesite rock in, analysis of, (1863) p. 457.
 analysis of fibrous serpentine from, (1863) p. 472.
 chromiferous mica found in, (1863) p. 494.
 analysis of chromic iron-ore from, (1863) p. 504.
 note on manganese oxide from, (1863) p. 507.
 magnetic iron-ore deposits of, (1863) p. 677.
 deposits of chrome ore, assay of, (1863) p. 749.
 locality of occurrence of bog manganese ore in, (1863) p. 752.
 reference to carbonate of magnesia in beds of, (1863) p. 756.
 deposits of steatite or soapstone in, (1863) p. 797.
 locality for potstone in, reference to analysis, (1863) p. 799.
 locality for whetstones in, (1863) p. 809.
 copper-ore, occurrence of, (63-66) p. 35.
 Huntington mine, note on, (63-66) p. 35.
 outcrops of metalliferous band in, (63-66) p. 36.
 workings for copper ore in, (63-66) p. 36.
 chromic iron-ore in, (63-66) p. 43.
 copper localities in, (63-66) 299.
 analyses of chromiferous serpentine from, (74-75) p. 304.
 microscopic structure of feldspathic actinolite-schist, from lot 28, R. V., (80-82) p. 18 A.
- Bon Ami Cape**, Gaspé, Que., fossils from, representing middle division of Devonian of Gaspé, (80-82) p. 13 DD.
 illustration showing pillar of trap, sketched by Sir William Logan, (80-82) facing p. 19 D.
- Bon Ami Point**, Dalhousie, N.B., trap ridges of, fossils in, (79-80) p. 20 D.
- Bonanza ledge**, B.C., assay of quartz from, (76-77) p. 477.
- Bonanza Pit**, High Rock mines, Lievre River, Que., note on work in apatite deposits, (82-84) pp. 5-6 J.
- Bonaparte Lake**, St. Croix, N.B., syenites of, (70-71) p. 52.
- Bonaparte River**, B.C., rocks of volcanic series near, (71-72) p. 58.
 gold on, (76-77) p. 143.
 character of valley, (77-78) pp. 11-12 B.

- Bonaparte River, B.C.—Cont.**
 exposures of Cache Creek Group on, section of rocks, fossils in limestone, (77-78) pp. 93-94 B.
 fusuline limestone found in Cache Creek rocks on, (77-78) pp. 93-94 B.
 elevations of terraces on, (77-78) p. 149 B.
- Bonar coal seams represent the Lloyd Cove seam, near Sydney, N.S., (74-75) p. 243.**
 upper and lower, sections of, (74-75) p. 245.
- Bonar Head, N.S., Lloyd Cove coal-seam near, (74-75) p. 235.**
- Bonaventure Co., Que., Lower Carboniferous rocks of shore of Bay of Chaleurs, (80-82) pp. 6-9 D.**
 eruptive rocks of Bay of Chaleurs, (80-82) pp. 17-18 D.
 map of part of, on Lake Metapedia Map Sheet, issued in 1884.
 map of part, on Head Waters Bonaventure Map Sheet, issued in 1884.
- Bonaventure Formation, description of, exposures at Bonaventure Island and Point Peter, Que., (1863) pp. 404-405.**
 exposed from Gaspé Bay to Bay of Chaleurs coast section, (1863) pp. 437-453.
 list of faults in, from White Cape to Beau-fils Brook, Gaspé, (1863) pp. 440-441.
 exposed on Bay of Chaleurs west of Port Daniel, (1863) pp. 446-453.
 trap breccia of, on north coast of Bay of Chaleurs, (1863) p. 447.
 granite beneath, at Rough Waters, Nipisiguit River, N.B., (1863) p. 452.
 relation to coal bearing beds of New Brunswick, (1863) p. 453.
 additional notes on, distribution of, probable boundary of, (1863) p. 886.
 compared with Milstone Grit of Pictou, (66-69) E. p. 8, F. p. 8.
 stratigraphical position of, (79-80) p. 10 D.
 of eastern New Brunswick, extent of, exposures of, (79-80) pp. 7-10 D.
 of north shore Bay of Chaleurs, descriptions, (80-82) pp. 6-9 D.
 Lower Carboniferous of Gaspé Co., Que., distribution, (80-82) pp. 1-3 DD.
 in Gaspé, changes made in beds included in, (80-82) pp. 2-3 DD.
- Bonaventure Island, Gaspé, rocks of typical of Lower Carboniferous of Gaspé, (1863) p. 404.**
 rocks of, conglomerates, (1863) p. 438.
 typical beds of Lower Carboniferous, the Bonaventure Formation, (80-82) p. 2 DD.
- Bonaventure Lake, height above Bay of Chaleurs, (82-84) p. 8 E.**
- Bonaventure River, Bay of Chaleurs, extent of red sandstones of, (1863) p. 447.**
 small area of Devonian sandstone, (80-82) p. 3 DD.
 summary of surveys of, by R. W. Ellis, (82-84) p. 8.
 general description of country, height of Bonaventure Lake, timber, agricultural
- Bonaventure River—Cont.**
 land, temperature of water, fish and animals, (82-84) pp. 8-9 E.
 Devonian rocks on, (82-84) p. 21 E.
 Silurian rocks on, anticlines and outlier of Devonian, reference to former descriptions, (82-84) pp. 28-29 E.
- Bone ornaments used by Haida Indians, (78-79) p. 140 B.**
- Bones, phosphate of lime in, used in manufacture of porcelain and in agriculture, (1863) p. 758.**
 in river silts of second prairie steppe, (74-75) p. 50.
- Bonheur Sta., C.P.R., Ont., character of gneiss at, (80-82) p. 12 C.**
- Bonne Bay, west coast Nfld., description, altitude of rocks, Silurian series, (1863) p. 292.**
 increase in slope of rocks at, indicate proximity to continental breaks or faults, (1863) p. 297.
 section of rocks on East Arm, with fossils found, (1863) pp. 865-869.
- Bonnechère River, Ont., crystalline limestone referred to, (1863) p. 46.**
 outliers of Chazy on, (1863) p. 129.
 outliers of Birdseye, Black River and Trenton, (1863) p. 175.
 cavern at fourth chute on, (1863) p. 176.
 traces of Silurian on, (76-77) p. 251.
 trough of crystalline limestones, (76-77) p. 256.
 rocks at mouth of, (76-77) p. 257.
 drift clay and sand at mouth of, (76-77) p. 257.
 gneiss hills on, (76-77) p. 259.
 Murray's explorations on, (76-77) p. 265.
- Bonnechère Valley, Ont., drift deposits of, (76-77) p. 258.**
- Bonhomme Mountain, Que., dislocation reaching to, (1863) p. 156.**
- BONNYCASTLE, CAPT. R. H., reference to papers by, on Canadian geology, (1863) p. xi.**
- Books added to library of Survey during 1876-77, (76-77) p. 9.**
 during 1879, (78-79) pp. 7-14.
 during 1882, (80-82) pp. 30-44.
 during 1883, (82-84) pp. 29-46.
- Books and instruments purchased from Logan estate, (80-82) p. 11.**
- Boom Island, near Denys Basin, N.S., gypsum deposits, (79-80) p. 102 F.**
- Boons Mills, Tay River, York Co., N.B., rocks at, (66-69) E. p. 184, F. p. 203.**
- Bordeau Point, Bay of Chaleurs, silicious conglomerate of, (1863) p. 449.**
- Boreholes put down in Springhill, N.S., by Messrs. Barlow and Anderson, (73-74) p. 155.**
- Borehole on Springhill and Parrsboro Mining Co's area, depth, seams met, (75-76) p. 345.**
 on Joggins main seam, N.S., depth of seam (75-76) p. 346.

Borehole—Cont.

- put down near South Antler Creek, N.W.T., record of, (79-80) pp. 9-10 A.
 at Rat Creek, Man., section, (74-75) p. 3.
 near Turtle Mountain, Man., record of, (79-80) pp. 10-11 A.
- Boric acid** in mineral waters of Canada, note on, (1863) p. 560.
- Borings**, examples of deep wells, (74-75) p. 4.
 deepest boring, (74-75), p. 4.
 at Burrard Inlet, section in bore hole, (76-77) p. 189.
 made on Crowfoot Creek, by C.P.R., for coal, (82-84) p. 87 C.
 in New Brunswick, at Clones District and Otnabog River, (74-75) p. 92.
- Boring**, at Goderich for salt, general note on discovery of salt at, (76-77) p. 221.
 at Goderich, progress of, (76-77) p. 225.
 in Grand Lake basin, N.B., for coal, (72-73) pp. 180-181.
 at Coal Creek, Grand Lake, N.B., in 1869, (72-73) p. 208.
 for coal, in Grand Lake basin, history of, (72-73) p. 225.
 at Newcastle Bridge, N.B., report of, (72-73) pp. 231-237.
 Newcastle Bridge, N.B., average progress per day, (74-75) p. 90.
 at Newcastle Bridge, N.B., second report by R. W. Ellis, (74-75) pp. 90-95.
 Newcastle Bridge, N.B., record of No. 2, (74-75) pp. 94-95.
 Newcastle Bridge, N.B., record of No. 3, (74-75) p. 96.
 results of, at Nanaimo, (76-77) p. 178.
 in Manitoba and N.W.T., summary of operations during 1873, (73-74) pp. 3, 12-16.
 in N.W.T., results of, sections, (74-75) p. 3.
 in North-west Territory in 1875, by R. W. Ellis, (75-76) pp. 281-291.
 for oil near Lake Ainslie, note on, (82-84) pp. 43-44 H.
 for oil at Lake Ainslie and Baddeck River, N.S., results of, (82-84) p. 90 H.
 for oil in Kent Co., N.B., character of springs, note on, (80-82) p. 5 D.
 at Salmon River, N.B., record of, (72-73) p. 230.
 for salt wells in Western Ontario, since 1869, (74-75) pp. 285-288.
 at Sooke, B.C., in Tertiary rocks, section, (76-77) p. 191.
 in the Souris River Valley in 1880, report on, (79-80) pp. 1-11 A.
 Souris Valley, Man., contract and preliminary examination, summary of, (79-80) p. 2.
 in Springhill coal-fields, objects of, (71-72) p. 13.
 on Swan River near Fort Pelly in 1875, note on strata passed through, (75-76) pp. 292-293.
 for coal in southern N.B., depth of bore holes, (78-79) pp. 19-20 D.
 through Corniferous and Onondaga Formations, results, (63-66) p. 268.

Borings—Cont.

- recommended in apatite regions, Ont., (74-75) p. 160.
 by diamond drill, need of, to determine thickness of Cretaceous of the plains, (73-74) p. 53.
- BORROR, MR. E. B.**, explorations by on Ground Hog River, basin of Moose River, (80-82) p. 7 C.
 notes by, on rocks of vicinity of Mattagami Lake and Ground Hog River, (80-82) pp. 7-8 C.
- Borthwick's** mineral spring, Gloucester, Ont., character of, (1863) p. 537.
- Bosanquet, Que.**, occurrence in of oxalate of iron, (1863) p. 513.
- Bosanquet Tp., Ont.**, sections of Hamilton Formation with fossils, (1863) pp. 382-384.
 fossils found in upper part of Hamilton Formation, (1863) p. 385.
 exposures of Genesee slates or lower part Portage and Chemung Group, (1863) pp. 387-388.
 analysis of bituminous shale from, (1863) p. 627.
 note on bituminous shales of, (1863) p. 784.
 wells in, (63-66), p. 248.
- Boston Bar rocks, B.C.**, argillites shales and thin beds of limestone in, (71-72) pp. 62-63.
 position in table of formations, (77-78) p. 173 B.
- Boston Bar Creek, B.C.**, position of mouth, (77-78) p. 41 B.
- Boston Bar, Fraser River, Selwyn party at, 1871,** (71-72) p. 22.
 character of vegetation, (75-76) p. 120.
 character of river-valley seen from hills, (77-78) p. 9 B.
 trail up Anderson River, description of, flora, etc., (77-78) p. 37 B.
 the rocks and fossils of the Cretaceous area near, (77-78) pp. 107-108 B.
 elevations of terraces, (77-78) p. 148 B.
 rocks represented on Coquihalla River, B.C., (77-78) p. 72 B.
 notes relative to exposures of rocks in vicinity of, (77-78) p. 73 B.
- Boston Bar to Spiroos Creek**, diagrammatic section, (77-78) p. 174 B.
- Boston Company's asbestos mine, Thetford, Que.**, notes on workings in, (80-82) pp. 6-7 G.G.
- Boston Gas Light Co.**, results of trials made of coal from Albion mines, (66-69) E. p. 435, F. p. 486.
- Boston Mine, Michigan**, trap overlying conglomerate, description of, (63-66) p. 155.
- Bostwicks Brook, Kingston peninsula, N.B.**, felsites on, (77-78) p. 4 E.
- Botany**, progress of researches by Prof. Macoun, 1883, (82-84) pp. 20-21.
- Bothan Brook, Middle River, C.B.**, garnetiferous granite, (82-84) p. 31 H.

- Bothromicromus*, Scudder, Nov, gen, Hemerobinarum, description of, (76-77) p. 462.
- Bothromicromus Lachlani*, Scudd., description of, from Tertiary of Quesnel, B.C., (76-77) p. 462.
- Bothwell, Kent Co., Ont., record of wells, (63-66) p. 245.
 record of wells, (63-66) p. 247.
 mineral water from Thames well, character and analyses, decomposition of, (63-66) pp. 273-276.
- Botryoidal hematite on Glengarry road near McNeil's mill, (76-77) p. 441.
- BOTSFORD, HON. A. E., report on albertite by Bailey and Ells addressed to, (76-77) pp. 397-401.
- BOUCHETTE, MESSRS., surveys and maps used in compilation of maps in Atlas, (1863).
- Boulaceet Harbour, N.S., Carboniferous rocks of, (76-77) p. 439.
 Laurentian rocks at, (76-77) p. 406.
 gold and silver mines at, (76-77) pp. 407-451.
- Boulardrie, N.S., analysis of iron ore from, (76-77) p. 476.
- Boulardrie District, N.S., situation of coal area, (74-75) p. 242.
 notes on coal seams of, (74-75) pp. 243-245
 section of strata from Point Aconi to the Millstone Grit, (74-75) pp. 245-247.
 work done on coal seams of, (74-75) p. 248.
- Boulardrie Hills, N.S., height, (75-76) p. 370.
- Boulardrie Island, N.S., analysis of manganese ore from, (78-79) p. 17 H.
 diagrammatic section of measures, (74-75) facing p. 266.
 the Carboniferous limestone of, sections, etc., (75-76) pp. 407-410.
 probable thickness of Millstone Grit, (74-75) p. 184.
 the Millstone Grit exposed on, (75-76) p. 411.
 Millstone Grit of, (76-77) p. 448.
 plaster of, (76-77) pp. 444-454.
 syncline in rocks of, (76-77) p. 405.
 building stone of, (76-77) p. 456.
- Boulder beaches around ponds of the plains, mode of formation, (74-75) p. 52.
 on Buffalo Lake, N.W.T., (75-76) p. 95.
- Boulder-clay, on Belly River, diagrammatic sections showing relations, (82-84) face p. 144 C.
 on Bow River overlying quartzite gravel, (82-84) p. 83 C.
 great depth of, in pre-glacial hollow, near Blackfoot Crossing, (82-84) p. 88 C.
 of British Columbia, sections in southern part, (77-78) pp. 140-141 B.
 Calgary, thick deposits south of, (82-84) p. 82 C.
 Chaudière Valley, destitute of gold, (63-66) p. 87.
 Cowgitz coal mines, vicinity of Skidegate, (78-79) p. 91 B.
 Fort Fraser, B.C., at high levels north of, (76-77) p. 51.
- Boulder clay—*Cont.*
 of New Brunswick, southern part of, (77-78) pp. 1-10 EE.
 in Southern New Brunswick, colour of, (77-78) p. 3 EE.
 of the Peace River plateau, (79-80) p. 140 B.
 of plains, thickness in river-valleys, (74-75) p. 47.
 of western plains, and interglacial beds, character and distribution of, (82-84) pp. 143-145 C.
 of plateau near Quesnel, B.C., (76-77) p. 19.
 near Eu-chen-i-ko Valley, (76-77) p. 22.
 on St. Mary River, Alta., exposures of overlying quartzite drift, (82-84) p. 60 C.
 in Sable River, Comox, B.C., (78-79) p. 98 B.
 ridges of, in valleys of second prairie steppe, (74-75) p. 47.
- Boulder Creek, Omenica, B.C., assay of galena from Arctic Circle claim, (78-79) p. 24 H.
 analysis of galena from Arctic Circle and Black Warrior veins, (79-80) p. 111 B.
- Boulder drift of western B.C., note on, (82-84) p. 10 B.
- Boulder formation in Ontario and Quebec, general discussion of, (1863) pp. 893-896.
 of slopes of Montreal Mountain, (1863) p. 918.
 note on age of, (1863) p. 929.
- Boulder Is., Huston Inlet, Q.C.Is., B.C., probable Cretaceous outlier on, (78-79) p. 54 B.
- Boulder mine, Garden River, Ont., galena at, (76-77) p. 211.
- Boulder pavement on Albany River, (71-72) p. 111.
 on Athabasca River, scratches caused by passing ice, (82-84) p. 8 CC.
- Boulder Point, Logan Inlet, Q.C.Is., B.C., latitude, observations at, (78-79) p. 234 B.
- Boulders, angular, on Touchwood hills, (73-74) p. 29.
 on plains south-west of Fort Ellice, abundant, (74-75) p. 42
 on plains near Qu'Appelle River, character of, (73-74) p. 72.
 enormous, on Trout River, Moose River Basin, (80-82) p. 9 C.
 erratic, not common on Vancouver Island, (71-72) p. 94.
 of Huronian and limestone rocks on plains, (73-74) p. 87.
 of Huronian quartzite, on Waterton River, illustration showing, (82-84) face p. 148 C.
 on west coast Hudson Bay, derivation of, (78-79) p. 22 C.
 of the south shore of James Bay, varieties of, (75-76) p. 325.
 north of Blackwater River, B.C., large size of, (76-77) p. 23.
 of drift deposit of Little Churchill River, (78-79) p. 16 C.
 rare in drift of Magdalen Islands, (79-80) p. 9 G.

Boulders—Cont.

- of Niagara and Devonian on Lakes Superior and Nipigon, (66-69) E. p. 353, F. p. 391.
 in drift, on Nelson River and boat route, composition of, (77-78) p. 24 C C.
 of Nelson River drift, derivation of, (78-79) p. 23 C.
 on Queen Charlotte Islands, B.C., note on source of, (78-79) p. 93 B.
 on plateau west of Quesnel, B.C., general composition, (75-76) p. 262.
 distribution of on plains of Saskatchewan, (73-74) pp. 57-58.
 transportation of, in southern New Brunswick, (77-78) p. 2 EE.
 Boundary Creek, B.C., gold on, (76-77) p. 143.
 note on gold washing in 1861, (82-84) p. 36 B.
 Boundary between Cretaceous and Tertiary rocks, not definite, general outline of, (73-74) p. 84.
 Boundary of the Laurentian in Canada outlined, (1863) p. 47.
 Boundaries of Nanaimo coal-field, B.C., (76-77) p. 170.
 BOURGÉAU, MR., catalogue of plants collected by, from Saskatchewan River, (75-76) pp. 186-232.
 Bourget Tp. Saguenay River, Que., titanite iron ore, (82-84) p. 8 D.
 Bourg Lewis, Portneuf Co. to St. Etienne, Que., coloured section, (1863) Atlas.
 Bourinout Road, Boisdale, N.S., gneisses and syenite, (75-76) p. 376.
 hematite on Curry's farm, (75-76) p. 414.
 garnets of, (76-77) p. 408.
 Laurentian limestone of, (76-77) p. 426.
 Lower Silurian rocks of, (76-77) p. 435.
 iron-ore of, (76-77) p. 449.
 Bouthillier seam, Glace Bay, N.S., section of on coast, (74-75) p. 214.
 BOVEY and DAWSON, notes on latitudes and longitudes adopted on maps of Q.C.Is., B.C., (78-79) pp. 233-239 B.
 Bowerman's Mills, Whitby Tp., Ont., outcrop of Utica in well at, (1863) p. 210.
 BOWES, E. A., referred to, (76-77) p. 402.
 BOWMAN, AMOS, work by in British Columbia with Dr. Dawson, (76-77) pp. 18, 44, 51, 79.
 explorations in southern British Columbia, referred to, (80-82) pp. 12-13.
 summary of exploratory work of in B.C., for 1883, (82-84) pp. 2-3.
 Bowmanville, Ont., Trenton limestone exposed at, position of beds, (1863) p. 189.
 the Utica Formation exposed near, (1863) p. 210.
 quarries for building stone in Trenton Formation, (1863) p. 816.
 BOWN, H. V., referred to, (76-77) p. 402.
 Bown Brook, N.S., Lower Silurian rocks of, (76-77) p. 432.
 Bown's quarry, East Bay, N.S., marble at, (76-77) pp. 427, 466.

- Bow River, Alta., analysis of coal from outcrop of Coal Bank seam, (80-82) p. 14 B.
 analysis of coal from Coal Creek, (82-84) pp. 32-33 M.
 analysis of lignite from Blackfoot Crossing, (79-80) p. 12 H.
 analysis and calorific power of lignite from various exposures on, (82-84) pp. 18-22 M.
 analyses of clay ironstone from, (80-82) p. 10 H; and (82-84) p. 168 C.
 analysis of saline efflorescence from, (82-84) p. 17 MM.
 outcrop of Coal Banks seam on, section of, (80-82) pp. 13-14 B.
 coal seam at Horseshoe Bend, thickness and analysis of, (80-82) p. 15 B.
 coal seam on Coal Creek, north of, note on, (80-82) pp. 19-20 B.
 estimated quantity of coal under one square mile for different coal seams, (80-82) p. 22 B.
 list of coal outcrops on, with thickness of seams, (82-84) p. 130 C.
 descriptive geology of, eastward from disturbed belt, (82-84) pp. 80-92 C.
 general description of valley and river, (82-84) pp. 29-34 C.
 western limit of Laurentian drift on, (82-84) p. 147 C.
 above Morley, illustration showing, (82-84) face p. 30 C.
 section and note on outcrops of coal seams near Blackfoot Crossing, (80-82) pp. 15-17 B.
 quartzite shingle on, (82-84) pp. 141-142 C.
 note on rocks of disturbed belt in Foot-hills, (82-84) p. 107 C.
 Laramie rocks on, (82-84) pp. 80-89 C.
 rocks of Belly River Series, exposed on, (82-84) pp. 91-92 C.
 change in character of Pierre shales on, (80-82) p. 7 B.
 Pierre shales of, (82-84) pp. 89-90 C.
 character of Pierre shales, thickness of upper part of, (82-84) p. 115 C.
 the Porcupine Hill Series, represented near Calgary, (82-84) p. 82 C.
 valley near mouth of Highwood River, (82-84) p. 31 C.
 Bow and Belly River region, N.W.T., report on geology of, and coal deposits by G. M. Dawson, (80-82) pp. 1-23 B.
 notes on coal seams of, (80-82) pp. 8-20 B.
 index map of coal and lignite outcrops, accompanying report B (80-82).
 explorations carried out in, note on, (82-84) p. 6 C.
 report on country in vicinity of, with maps, scale, 8 m. = 1 in., showing geology and wooded and prairie districts, (82-84) pp. 1-169 C.
 descriptive geology of, (82-84) pp. 36-111 C.
 general geology of, arrangement and composition of rocks, (82-84) pp. 111-126 C.
 list of elevations in, (82-84) pp. 153-156 C.
 note on placer gold in, (82-84) p. 152 C.
 Indian names of places in, (82-84) pp. 158-167 C.

- Bow and Belly River region—*Cont.*
map showing wooded and prairie tracts in, scale 8 m. = 1 in., accompanies report C, (82-84).
- Bow River Pass, note on anthracite-bearing trough in, (82-84) p. 111 C.
high terraces within mountains, (82-84) p. 146 C.
- Bow River Valley, width of disturbed belt in, (80-82) p. 3 B.
moraines in, near mountains, note on, glaciers of, (82-84) pp. 145-146 C.
high terraces in, elevation of, (82-84) p. 146 C.
- Box-elder, note on northern limit of, in Canada, (79-80) p. 48 C.
- Boxes used by Haida Indians for household purposes, (78-79) p. 142 B.
- Boyd Settlement, Queen's Co., N.B., schists exposed along road, (75-76) p. 362.
- Boyles Point, Denman Is., B.C., cliff of "Lower glomerate," (72-73) p. 47.
- Bracelets and bangles used by Haida Indians, (78-79) p. 108 B.
- Brachiopoda of the Birdseye and Black River Formations, wood-cuts of, (1863) pp. 141-143.
of Calcareous Formation, wood-cuts of, *Lingula Mantelli* and *Orthisina grandæva*, (1863) p. 113.
of the Chazy Formation, wood-cuts of, *Lingula*, *Rhynchonella*, *Camerella* and *Orthis*, (1863) pp. 124-130.
of Corniferous Formation, wood-cuts of typical species, (1863) pp. 367-374.
of Hamilton Formation, wood-cuts of characteristic species, (1863) pp. 384-386.
of the Hudson River Formation, wood-cuts of, (1863) pp. 209-212.
of Potsdam Group of Str. of Belle Isle and Swanton, Vermont, (1863) p. 284.
of the Potsdam Group, wood-cuts of, *Lingula acuminata* Conrad, (1863) p. 102.
of the Quebec Group, wood-cuts of, (1863) pp. 230-231.
of the Quebec Group, wood-cuts of, *Lingula* from Swanton, Vermont, (1863) p. 274.
of Trenton Group, wood-cuts of, (1863) pp. 159-168.
of the Utica Formation, wood-cuts of, (1863) p. 201.
- Brachypeza abita*, Scudder, description of fossil from Quesnel, B.C., (75-76) p. 271.
- Brachypeza procera*, Scudder, description of fossil from Quesnel, B.C., (75-76) p. 272.
- Braconidæ, of Tertiary beds of Quesnel, by S. H. Scudder, (75-76) p. 270.
- Bracon* Sp., description of fossil insect from Similkameen River, B.C., (77-78) p. 176 B.
- Bradfords Cove, Charlotte Co., N.B., travelled boulders on St. Croix River, (77-78) p. 2 EE.
- Bradore Bay, Gulf of St. Lawrence, base of Palæozoic rocks, general section of, fossils of Potsdam, (1863) pp. 287-288.
- Bradleys Creek, Baynes Sound, B.C., sandstones, overlying coal, (71-72) p. 78.
section of productive coal measures, (72-73) p. 42.
- BRAIN, MR., information from, relative to measures in St. Lawrence area, (66-69) E. p. 42, F. p. 46.
- Brampton, Ont., character of saline spring at, (1863) p. 535.
- Brandfords Cove, St. Croix River, N.B., syenites of, (70-71) p. 152.
Mascarene Series near, fossils of, (70-71) p. 153.
- Brandon Hills, Man., purity of bog iron-ore from, (82-84) p. 17 MM.
analysis of water from well north of, (82-84) p. 18 MM
- Brandy Cove, St. Croix River, N.B., conglomerates of shore from Johnstons Cove, (70-71) p. 154.
Perry sandstones of, (70-71) p. 201.
- Branscombes Point, Cumberland Bay, Grand Lake, N.B., exposures of rocks at, (72-73) p. 212.
- Brant Co., Ont., boring at Sydenham through gypsum, (63-66) p. 251.
general geology of, see Part 1, page 12.
- Brantford, analyses of soil from Strathmore, (1863) p. 639-640.
note on superficial deposits at, (1863) p. 902.
marls from, examined by T. S. Hunt, (76-77) p. 230.
- Brantford Tp., Ont., gypsum localities in, (1863) pp. 349-350.
gypsum deposits referred to, (1863) p. 762.
partial analysis of water from Blue Spring, (1863) p. 535.
exposure of dolomite, etc., at Walkerton, of Onondaga Formation, (1863) p. 351.
outcrop of Corniferous Formation noted, (1863) p. 371.
fresh water marl in, (1863) p. 764.
note on building-stones of, (1863) p. 821.
note on lithographic stone in Onondaga Formation, (1863) p. 835.
description of exposures of Saugeen clay, (1863) p. 899.
- Bras d'Or coal basin, N.S., Boulardrie District, (74-75) pp. 242-249.
Cape Dauphin District, (74-75) pp. 249 and 250-262.
section of measures to St. Annes Mt., (74-75) pp. 255-257.
- Bras d'Or fault, west of the great fault, (70-71) pp. 4-5.
- Bras d'Or Lake, N.S., limestone and serpentine series of Lower Palæozoic age, (74-75) p. 9.
Millstone Grit, made up from syenite débris, (74-75) p. 175.

- Bras d'Or Lake, N.S.—Cont.**
 excavated by glacial action, (74-75) p. 265.
 description of, (76-77) p. 402.
 geological position of, (76-77) p. 402.
 fishes of and animals of vicinity, (76-77) p. 403.
 note on scenery of, (76-77) pp. 403, 444.
 as a summer resort, (76-77) p. 404.
 ornamental stones of the, (76-77) p. 456.
 Little Narrows of, salt springs of, analysis of brine, (73-74) p. 181.
- Brassard Tp., Berthier, Que., analysis of samarskite from, (80-82) p. 1 H.**
- Brass Point, Loughborough Lake, Potsdam sandstone, outcrop near, (1863) pp. 97, 99.**
- Brassy Hill, Hill River, height of, composition, (77-78) p. 7 CC.**
 character of surrounding country, with view from, (77-78) p. 24 CC.
- Brazeau River, reports of coal seams on, (75-76) p. 288.**
- Breno Brook, N.S., iron-ore near East Bay, Cape Breton Co., (76-77) pp. 441, 449.**
 iron-ore of, explorations and mining operations, (79-80) p. 122 F.
- Breccia of Bachewahung and Goulais Bays, Lake Superior, (63-66) p. 125.**
 of Northfork, Canaan River, N.B., (72-73) p. 215.
 volcanic, Leach Island, Lake Superior, (76-77) p. 218.
 dyke of, Meganatawan River, Ont., (76-77) p. 202.
 north-west shore, Michipicoten I., (63-66) p. 138.
 of Potsdam and Trenton rocks exposed in Hemmington Tp., Que., (1863) pp. 89-90.
 in pre-Silurian rocks in St. John and Kings Cos., N.B., horizon of, (77-78) p. 4 DD.
 above sandstone, Upper Copper-bearing Series, (63-66) p. 135.
- Brecciated greenstone, Bachewahung Bay, (63-66) p. 125.**
- Brecciated limestone, Stuarts Lake, B.C., (76-77) p. 56.**
 Atunatche Valley, B.C., (79-80) p. 109 B.
- Brecciated red and green conglomerates, Mc-Lellans Brook, Pictou Co., N.S., (66-69) E. p. 9, F. p. 10.**
- Brèche à Manon Brook, Gaspé, Que., small area of Lower Carboniferous, unconformity with Silurian, (80-82) p. 2 DD.**
 Silurian rocks on, (80-82) p. 15 DD.
- Brecklin's mine, Templeton, Que., note on, (80-82) p. 12 GG.**
- Breeding of cattle at Fort Churchill, (78-79) p. 22 C.**
- Breslau, Ont., estimate of thickness of Guelph Formation at, (1863) p. 338.**
- Brick and pottery clay in Southern Alberta, note on, (82-84) p. 138 C.**
- Brick clays of Southern British Columbia, note on, (77-78) p. 165 B.**
- Brick clays—Cont**
 in Cape Breton, N.S., note on, (74-75) p. 264.
 Mira brick works, Cape Breton Co., N.S., (77-78) p. 30 F.
 Fort Garry, Man., laboratory work on, (72-73) p. 7., notes by B. J. Harrington on, (72-73) pp. 296-299.
 of Winnipeg city and vicinity, (74-75) p. 48.
 on Kaministiquia River, (66-69) E. p. 362, F. p. 401.
 of Ontario and Quebec, for bricks and lower grade earthenware, note on, (1863) pp. 801-802.
 of Little and Great Whale Rivers, note on, (77-78) p. 23 C.
 Victoria, B.C., note on, (71-72) p. 94.
 for white and red bricks, note on Ontario clays, (1863) p. 898.
- Brick making, tests of indurated clay from Souris City, Man., (80-82) pp. 2-3 H.**
- Brick Point near St. Peters, N.S., brick clay at, (79-80) p. 125 F.**
- Bricks, test of infusorial earth from Pollet Lake, Kings Co., N.B., for making, (79-80) pp. 3-6 H.**
 white and red, general note on clay deposits of Ontario, from which made, (1863) pp. 801-802.
- Bridge, Indian, at Salmon House, B.C., description of, (76-77) p. 31.**
- Bridge Creek, B.C., Tertiary volcanics on wagon road, (75-76) p. 70.**
- Bridge fault, Pictou coal-fields, (66-69) E. p. 48, F. p. 54.**
 on west side East River, Pictou, N.S., (66-69) E. p. 85, F. p. 95.
- Bridge Island, Hog Lake, Hastings Co., Ont., crystalline limestones, (66-69) E. p. 154, F. p. 171.**
- Bridge Lakes, trail to Athabasca Landing, N. W.T., description of country, height of, (79-80) p. 86 B.**
 latitude observation taken at, (79-80) p. 162 B.
- Bridge River, B.C., gold on, (76-77) p. 142.**
- Bridgeport, N.S., diagrammatic section of measures, (74-75) face page 266.**
- Bridgeport anticline, direction of axis, (74-75) p. 223.**
- Bridgeport coal, analysis, yield of gas, (72-73) p. 252.**
- Bridgeport mine, N.S., description of, date of opening, (72-73) p. 252.**
 section of Phelan seam compared with coast section, (74-75) p. 221.
- Bridgewater, Ont., crystalline limestone associated with gneiss, (66-69) E. p. 148, F. p. 165.**
 crystalline limestone quarried for building stone, (66-69) E. p. 154, F. p. 171.
 conglomerates, horizon and distribution, (66-69) E. p. 157, F. p. 174.
 marble at, (63-66) p. 94.

Bridgewater, Ont.—Cont.

rocks suitable for whetstones, (63-66) p. 107.
view at, sketched by Dr. Perrigo, M.D., (72-73) face page 152.

Brigand Brook, Skye Mountain, N.S., pre-Cambrian limestones, copper ore in quartz vein on, (82-84) p. 33 H.

Brighton outlier of Lower Carboniferous, N.B., limits and fossils of, (70-71) p. 243.

Bright Parish, N.B., Carboniferous rocks highly inclined, (82-84) p. 7 G.
Cambro-Silurian rocks of, (82-84) pp. 21-22 G.

Brines of Goderich region, note on purity of, (76-77) p. 223.
sources of in Ohio and Michigan, (76-77) p. 237.

sources of at Syracuse, N.Y., (76-77) p. 239.
from Nanaimo, B.C., work in laboratory on, with analysis by G. C. Hoffmann, (72-73) pp. 6, 82.

of Ontario, density of, gypsum and earthy chlorides, (74-75) pp. 271-273.

Brine springs of Ontario, supposed origin of, (1863) p. 563.

Bristol iron mine, Que., occurrence of iron pyrites with magnetite, (73-74) p. 203.
analysis of magnetic ores, (73-74) p. 208.
cost of labour, (73-74) p. 242.
ore raised, openings made, (73-74) p. 258.
note on, horizon of ore, (76-77) p. 297.

Bristol Tp., Que., Calciferous Formation in, (1863) p. 116.
note on deposit of iron ore in, (1863) p. 678.
note on beds of magnetite being worked on second range of, (73-74) p. 196.
limestones in, (76-77) pp. 247, 295.
anticlinal in, (76-77) p. 292.

British Columbia, analyses of coal and lignite from, (76-77) pp. 465-468.

boundaries, area, orographical features, (71-72) p. 49.

climate, agriculture and timber, general note on physical features of central portion, (77-78) pp. 4-7 B.

climate of northern part of central plateau, forest trees of, (75-76) p. 142.

climate, minerals and timber, value of as a province, (75-76) p. 117.

coal and lignite formations in, (76-77) pp. 119-129.

coal localities on mainland and Vancouver and Queen Charlotte Islands, (76-77) pp. 144-146.

Cretaceous of, compared with California, Nebraska and England, (72-73) p. 71.

Cretaceous System of coast, note on, (72-73) pp. 71, 75.

drainage, general scheme of, (71-72) p. 50.

early geological writings on, (71-72) p. 51.

resumé of facts published regarding glaciation of, (77-78) pp. 133-135 B.

general glaciation of southern part, north to south movement, (77-78) pp. 136-138 B.

British Columbia—Cont.

gold, general note on distribution, sources of, and character of various auriferous districts, (76-77) pp. 134-144.

list of localities producing gold, (76-77) pp. 134-144.

gold, product of, (76-77) p. 106.

first gold discovered at Nicoamen, (77-78) p. 151 B.

height of mountains, (71-72) p. 49.

iron-ore deposits, general note on, (76-77) pp. 129-130.

localities for, (76-77) p. 146.

game of the interior, Indians, (71-72)

note on, Indian population of northern part, (79-80) pp. 30-31 B.

resources of, future of, (71-72) p. 72.

note on lakes and mountains of northern part, (79-80) pp. 24-25 B.

list of latitudes determined in northern part by G. M. Dawson, C. Horetsky and A. Webster, (79-80) pp. 157-165.

list of metalliferous localities in, (76-77) pp. 134-149.

list of plants from coast to Rocky Mts., (75-76) pp. 186-232.

list of plants from northern part, collected in 1879 by G. M. Dawson, (79-80) pp. 143-146 B.

map of southern portion of, scale 8 m. = 1 in., to accompany, (77-78) B.

record of mines and statistics for 1869-71, (71-72) p. 152.

mines and minerals of, general note by G. M. Dawson, (76-77) pp. 103-149.

rock formations of, groups, (71-72) p. 54 and (74-75) p. 73.

silver, copper, mercury and other ores, general note on (76-77) pp. 131-134.

localities for, (76-77) pp. 147-149.

general remarks on rocks of, with table of equivalent sections, (77-78) pp. 166-176 B.

table showing equivalency of formations in, (77-78) pp. 172-173 B.

preliminary explorations in, by A. R. C. Selwyn, (71-72) pp. 16-72.

report on the coal-fields of Vancouver Island by Jas. Richardson, with map, scale 10 m. = 1 in., (71-72) pp. 73-100.

report on the coal-fields of Vancouver and Queen Charlotte Islands by Jas. Richardson, with map of part of Str. of Georgia and Vancouver Island, scale 2 m. = 1 in., (72-73) pp. 32-65.

report on geological explorations in, by Jas. Richardson, (73-74) pp. 94-102.

report on exploration in, by Jas. Richardson (74-75) pp. 71-83.

report on exploration by A. R. C. Selwyn, Quesnel to Peace River, map showing sketch-survey of route, scale 6 m. = 1 in., (75-76) pp. 28-86.

report by Prof. Macoun on botany of country traversed from Victoria to Peace River, (75-76) pp. 110-156.

report on explorations by G. M. Dawson on Chilco and Nazco rivers and trail to Fort George, (75-76) pp. 233-265.

British Columbia—*Cont.*

- report by G. M. Dawson on basins of Blackwater, Salmon and Nechacco rivers, and François Lake, with map, 8 m. = 1 in., (76-77) pp. 17-149.
- report on the coal-fields of Nanaimo, Comox, Cowitchien, Burrard Inlet and Sooke, by Jas. Richardson, with map, scale 4 m. = 1 in., (76-77) pp. 160-192.
- report on southern portion of the interior by G. M. Dawson, with map, scale 8 m. = 1 in., (77-78) 1-173 B.
- report on the Queen Charlotte Islands by G. M. Dawson, with map, scale 8 m. = 1 in., (78-79) pp. 1-239 B.
- report on an exploration from Port Simpson via Skeena River to Peace River, with maps scale 8 m. = 1 in., (79-80) pp. 1-157 B.
- report on country in vicinity of 49th parallel, by H. Bauerman, (82-84) pp. 5-42 B.
- reports on various districts in, see pp. 18-20, Part I, General Index.*
- summary of progress of work in, for 1876-77, (76-77) p. 2-3.
- summary of geological explorations during 1877-78, (77-78) p. 4.
- resumé* of geological work in southern part, (77-78) p. 4 B.
- summary of explorations by G. M. Dawson in 1879, (78-79) pp. 1-2.
- summary of surveys by Amos Bowman in 1882, (80-82) pp. 12-13.
- summary of exploration by Amos Bowman in 1883, (82-84) pp. 2-3.
- note on, the distribution of the more important trees, with map showing, (79-80) pp. 167-171 B.
- British Columbian series, general relations of, (76-77) p. 88.
- British Columbia, Coal Mining Company, Burrard Inlet, section of bore hole, (76-77) p. 189.
- British Geological Survey, list showing number of officers, (74-75) p. 5.
- Britain Stream, Kings Co., N.B., Huronian rocks west of, (70-71) p. 114.
- Loch Alva, Charlotte Co., N.B., granite area, (70-71) p. 184.
- Brizzly Brook, N.B., Upper Carboniferous rocks on, (72-73) p. 221.
- BROAD, W., summary of work in Southern N.B. for 1879, (78-79) p. 4.
- surveying operations of during 1880 in York and Carlton, N.B., (79-80) p. 6.
- surveys made and work by, in York and Carleton Cos., N.B., cost of explorations, (80-82) p. 6.
- summary of explorations in New Brunswick for 1882, (80-82) p. 20.
- promoted to position on staff, (80-82) p. 28.
- BROADBENT, R. L., work by in removal of museum to Ottawa, (80-82) p. 2.
- appointment as museum assistant, (80-82) p. 28.

BROADBENT, R. L.—*Cont.*

- work by, for 1883, (82-84) p. 22.
- Broad Cove, Inverness Co., N.S., coal-fields of, note on coal seams, quantity and quality of coal, shipping facilities, (73-74) pp. 182-183.
- analyses of coal from, (73-74) pp. 188-191.
- explorations of H. Fletcher, summary for 1881, (80-82) p. 7.
- new openings made on coal seams, (82-84) p. 14.
- Broad Cove, Cobscook Bay, Maine, geology of, (70-71) pp. 154-156.
- Broad Cove coal measures, Inverness Co., N.S., sections and description, (82-84) pp. 71-74 H.
- Broad Cove coal mines, N.S., note on workings at, (82-84) p. 88 H.
- Broad Cove Chapel, N.S., Lower Carboniferous rocks of, (82-84) p. 38 H.
- explorations for gold at, (82-84) p. 96 H.
- Broad Cove Chapel Brook, Inverness Co., N.S., Lower Carboniferous rocks of, (82-84) p. 40 H.
- Broad Cove Map-sheet, N.S., issued 1884, scale 1 mile = 1 in.
- Broad Cove Marsh, N.S., Lower Carboniferous rocks of, (82-84) p. 51 H.
- Broad Cove River, Mabou, N.S., gneissic rocks of, (82-84) p. 8 H.
- Lower Carboniferous rocks of, (82-84) pp. 37-38 H.
- sections measured by Mr. Robb, of Coal Measures, (82-84) p. 72 H.
- Broad Rapid, Nelson River, situation of, (78-79) p. 25 C.
- Brockaway settlement, Magaguadavic River, N.B., Carboniferous rocks, (72-73) p. 184.
- Brockville, Ont., description of Potsdam band, crossing near, (1863) p. 91.
- note on limestone of, for building stone, (1863) p. 816.
- note on clay deposits of, (1863) p. 904.
- Brockville Chemical Co., statistics for 1870, (71-72) p. 147.
- site of works, (74-75) p. 307.
- note on operations of, (82-84) p. 10 L.
- BRODIE, SIR BENJAMIN, researches on origin of graphite, (63-66) p. 222.
- BRÖGGER AND REUSCH, list of minerals of apatite deposits of Norway, (77-78) p. 13 G.
- Brokeneck Mountain, Queens Co., N.B., rocks of, (70-71) p. 67.
- Silurian rocks in vicinity of, (70-71) p. 167.
- felsite areas south-west of, (75-76) p. 350.
- Brome Lake, Que., lower black slates of Quebec Group near, (1863) p. 240.
- Brome Mountain, Que., trachyte mass of, cuts off, lower dark shales of Quebec Group eastward, (1863) p. 239.
- orthoclase from trachyte of, analysis, (1863) p. 476.

Brome Mountain, Que.—*Cont.*

note on character of trachyte with analysis of sample, (1863) p. 656.

Brome Tp., Que., occurrence of nepheline and sodalite noted, (1863) p. 480.

note on specular schists, localities with section showing position of ore bed, (1863) p. 680.

note on trachytes of, for building stone, (1863) p. 812.

copper ores of, (63-66) p. 38.

copper localities, (63-66) p. 298.

composition of titanite iron ore from lot 1, R. III., (73-74) p. 228.

Bromides, note on presence of, in mineral waters of Canada, (1863) p. 554.

Bromine manufactured from bitterns, or dense salt brines of Pennsylvania and Germany, (66-69) E. p. 234, F. p. 258.

Bromine and iodine in apatite, (77-78) pp. 12-14 H.

Brompton Falls, Que., clay slates of, (1863) p. 436.

Brompton Gore mine, character of ores, horizon of, (63-66) p. 39.

Brompton Lake, Oxford Tp., Que., pyroxene and garnet with calcareous spar, (1863) p. 249. analyses of conglomerate ophiolite, (1863) p. 610.

analysis of diorite from, (1863) p. 603.

Brompton Tp., Que., copper localities, (63-66) p. 305.

slates found in, similar to those of Orford, (1863) p. 831.

copper ores, (63-66) p. 39.

Bronteus lunatus, Billings, wood-cut of, (1863) p. 188.

Brooke Tp., Ont., outcrop of bituminous shale of Portage Group, (1863) p. 388.

bituminous shales of, referred to, (1863) p. 785.

Brookfield, N.S., masses of limonite scattered on surface at, (73-74) p. 231.

Brooks in Southern Cape Breton, note on character of, (79-80) p. 112 F.

of Northern Cape Breton, general description of, (82-84) pp. 79-81 H.

Brook Village, N.S., sandstone and shale of Lower Carboniferous, (82-84) p. 42 H.

synclines in Carboniferous rocks at, (82-84) p. 43 H.

BROOME, GORDON, services of, secured temporarily, (69-70) p. 9 Summ.

analysis of coal made by, (66-69) E. p. 365, F. p. 405.

analysis of coal from Acadia seam, Acadia colliery, (66-69) E. p. 381, F. p. 423.

analysis of coal from Cape pit seam, Albion mines, N.S., (66-69) E. p. 374, F. p. 415.

analysis of coal from Drummond colliery, N.S., (66-69) E. pp. 382-386, F. pp. 424-428.

BROOME, GORDON—*Cont.*

analysis of oil-coal from Marsh Brook, Pictou, N.S., (66-69) E. p. 395, F. p. 438.

analysis of oil-coal, Patricks mine, Pictou, (66-69) E. p. 394, F. p. 437.

analysis of iron-ores from Belmont, Ont., (66-69) E. p. 259, F. p. 286.

analysis of iron-ore from Dalhousie iron mine, Ont., (71-72) p. 123.

analysis of spathic iron-ore from Sutherlands River, N.S., (73-74) p. 239.

work by, in Frontenac and Lanark, Ont., (70-71) p. 8.

Broom Point, Nfld., conglomerates extend to, (1863) p. 878.

Brothers Michael granite quarry, Bay of Fundy, N.B., (76-77) p. 348.

BROUGH, J. S., donation of fossil to museum, (82-84) p. 20.

Broughton Mountain, Que., diorite ridge of, (1863) p. 254.

Broughton Tp., Que., lower black shales, outcrop of, (1863) p. 241.

copper ores found in, (1863) p. 731.

potstone reported in, (1863) p. 799.

copper localities in, (63-66) p. 320.

BROWN, G. C., plan and section of Dalhousie iron mine by, (72-73) p. 176.

apatite openings made in Buckingham, Que., (76-77) p. 306.

BROWN, H. Y. L., resigned from field staff, (75-76) p. 7.

BROWN, R. H., aid from, in Cape Breton coal-fields, (73-74) p. 171.

reference to published section of Coal Measures, Sydney mines, (73-74) p. 177.

quoted on fossils in Millstone Grit, Sydney, (74-75) p. 180.

section measured by, from Cape Dauphin to St. Annes Mt., N.S., (74-75) pp. 260-262.

base of Coal Measures established by, (74-75) p. 235.

Brown, Dr. R., report on Vancouver I. referred to, (71-72) p. 51.

on origin of gold in Vancouver I., (71-72) p. 53.

description of Vancouver I. coals, quoted, (72-73) p. 80.

explorations in Vancouver I., referred to, (76-77) p. 95.

on Quatsino coal, (76-77) p. 124.

Brown clay of Saugeen River, Ont., extent of, (1863) pp. 899-900.

Brown hematite or limonite, reference to characters, composition, origin and localities of occurrence of, (1863) pp. 510-512.

Brown-spar from Leeds, Que., note on, (1863) p. 508.

Browns Brook, Craignish Hills, Inverness Co., N.S., pre-Cambrian rocks of, (79-80) p. 12 F.

Devonian rocks of, (79-80) p. 52 F.

- Brown's Mill, above Dorton Bridge, Inverness Co., N.S., sequence of Devonian strata, (79-80) pp. 51-52 F.
- Brown's plaster bed, Cayuga, Ont., description of, (1863) p. 348.
- Brown's quarry and mill. Lincoln Co., Ont., statistics to 1871, (71-72) p. 147.
- Browns River, Comox, B.C., section of strata on, (72-73) p. 36.
crystalline rocks concealed by drift, (72-73) p. 37.
analysis of coal from, (72-73) p. 77.
note on section on, (76-77) p. 162.
- Brown's silver mine, Gros Cap, Ont., assay of galena, (77-78) p. 51 G.
- Bruce Co., Ont., note on character of boulders in, (1863) p. 894.
for general reference to geology of, see p. 12, Pt. I., Gen. Index.
- Bruce mines, note on copper lodes at, (1863) p. 60.
trough of Huronian, note on, (1863) p. 61.
crystals of calcite mentioned at, (1863) p. 454.
pearl-spar and calcite found at, (1863) p. 456.
heavy-spar occasionally found at, (1863) p. 459.
large crystals of quartz, (1863) p. 500.
description of workings at, (1863) p. 694.
- Bruce salt well, Ont., note on facility for shipping, (74-75) p. 268.
- Brudenell Tp., Ont., occurrence of large crystals of zircon recorded, (82-84) p. 15 L.
- Bruin Bay, North I., Q.C.Is., anchorage, tides, etc., (78-79) p. 40 B.
rocks of, (78-79) p. 84 B.
- Brulé Lake, Miller Tp., Ont., red granitic gneiss of, (72-73) p. 145.
- Brulé Point, Lake Superior, rocks of, dykes, (76-77) pp. 216-217.
- Brulé Sta., C.P.R., strike and character of Huronian rocks at, (80-82) p. 12 C.
- BRUMMELL, H. P., work by, as assistant to R. W. Ellis, 1882, (80-82) p. 20, 27.
work by, for 1883, (82-84) p. 22.
appointment of, (82-84) p. 23.
- Brundages Point, St. John River, N.B., section of lower Kingston rocks, (70-71) p. 124.
- Brunswick Lake, Moose River, Ont., survey made by Dr. Bell, (77-78) p. 3 C.
- Brush Creek, Seine River, route to English River, Huronian rocks, (72-73) p. 98.
Huronian band, breadth of, (72-73) p. 107.
- Bryant seam, section of, Little Bras d'Or, N.S., (74-75) p. 238.
in Boulardrie district, note on, (74-75) p. 243.
- Bryozoa of the Trenton Formation, wood-cuts of species, (1863) p. 158.
of the Utica Formation, wood-cuts of graptolites, (1863) p. 200.
- Bryozoa—*Cont.*
of the Quebec Group, wood-cuts of graptolites, (1863) pp. 226-228.
- Buccinum undatum* Linn, wood-cut of, (1863) p. 964.
- Buchanan's Rancho above Quesnel, description of vegetation, (75-76) p. 127.
- Buchanan's House, River Inhabitants, N.S., rocks on road near, (79-80) p. 92 F.
- Buckhorn Lakes, Chilanco River valley, B.C., morainic ridges, (75-76) p. 238.
- Buckingham Tp., Que., analysis of apatite from Grant mine, (77-78) pp. 3-4, 10 H.
Grant mine, analysis of apatite from, (77-78) pp. 7, 10 H.
analysis of graphite from lot 20, R. VIII., and lots 22, 23 and 28, R. VI., (75-76) pp. 426-428.
analysis of graphite from, (76-77) p. 492.
analysis of felspar from, (76-77) p. 511.
note on mode of occurrence of apatite, geological horizon, (74-75) p. 165.
note on workings in apatite properties in, (82-84) pp. 19-20 J.
apatite localities in, notes on workings, (76-77) pp. 303-308.
apatite openings in, (76-77) pp. 304-305.
graphite or plumbago reported in, (1863) p. 794.
graphite, mode of occurrence and localities, (63-66) pp. 23-26.
mode of occurrence of plumbago in, (73-74) pp. 139-140.
openings for graphite on lot 25, R. IV., (73-74) p. 140.
openings for graphite on lots 23, 24 and 25, R. V., (73-74) pp. 140-141.
openings for graphite on lots 4 and 21, R. VII., (73-74) p. 142.
openings for graphite on lots 15, 16 and 28, R. VI., (73-74) pp. 141-142.
opening for graphite on lots 4 and 5, R. IX., (73-74) p. 143.
openings for graphite on lots 3 and 4, R. X., (73-74) p. 143.
plumbago worked in, (76-77) p. 309.
beds of disseminated plumbago, (76-77) p. 314.
large vein of plumbago in, (76-77) p. 315.
limestone holding veins of barytes and galena, (63-66) p. 19.
occurrence of magnetic oxide of iron, (63-66) p. 20.
mines of, notes on condition, description of deposits, (76-77) pp. 303-308.
mining localities in, (76-77) pp. 312-318.
openings made by Mr. Brown, (76-77) p. 306.
outline of Potsdam band in, (1863) p. 94.
gneiss and limestones of, (76-77) p. 295.
- Buckingham, Que., to East Pierrépoint, N.Y., coloured section, (1863) Atlas.
- Buck Lake, Bedford Tp., Ont., apatite deposits, (74-75) p. 159.
- Buck Lake band of crystalline limestone, (73-74) p. 108.

- Buck Lake, Loughborough, Ont., limestone islands, (72-73) p. 171.
apatite in garnetiferous gneiss, (72-73) p. 172.
- Buckland Tp., Que., copper-bearing rocks extend through, (1863) p. 731.
width of Lauzon band, (66-69) E. p. 134, F. p. 150.
- Bucklaw felsites, distribution of, in vicinity of Bucklaw, N.S., (82-84) p. 7 H.
- Buckshot Lake, Miller Tp., Ont., rocks of, (72-73) p. 144.
- Buckthorn Lake, Peterborough Co., Ont., the Trenton escarpment near, (1863) p. 189.
- Buctouche, N.B., stratigraphical position of coal seams at, (80-82) p. 6 D.
- Buctouche River, Kent Co., N.B., outcrop of coal on, (80-82) p. 5 D.
- Buctouche Map-sheet, including part of Kent Co., N.B., and Prince and Queens Cos., P.E.I., issued in 1884.
- Buffalo, note on probable extinction of, (73-74) p. 61.
note on woodland, of Peace River, cause of extinction of, (79-80) p. 54 B.
- Buffalo Creek valley, on trail from Pine River Forks to Dunvegan, description of, (79-80) p. 48 B.
- Buffalo Lake, N.W.T., boulder beaches, (75-76) p. 95.
size, J. Macoun's traverse, (75-76) p. 177.
- Buffalo Mountains, Athabasca Dist., report of gold and silver, (75-76) p. 91.
- Buffalos Head Mt., Peace River, ascent by J. Macoun, plants, (75-76) p. 150-151.
see also Bulls Head on map and Horses Head, (75-76) p. 74.
- Buhrstone, localities of occurrence of, in Grenville, Que., (1863) p. 41.
chert of Grenville district, noted as being similar to, (1863) p. 808.
- Building stones of Athabasca Valley, note on, (82-84) pp. 31-32 CC.
in Southern Alberta, note on, (82-84) p. 138 C.
in British Columbia, (76-77) p. 133.
in Southern British Columbia, note on localities, (77-78) pp. 164-165 B.
of Boulardrie Island, N.S., (76-77) p. 456.
Cape Breton, (74-75) p. 264.
sandstones, (75-76) p. 416.
general notes, (77-78) p. 32 F.
of Southern Cape Breton, Graham River and Inhabitants River, (79-80) p. 125 F.
of Northern Cape Breton, note on, (82-84) p. 98 H.
- Cumberland Co., N.S., forming sandstone ridge south of coal measures, (73-74) p. 166.
East Main Coast, note on, (77-78) p. 23 C.
quarried at Galt and Hespeler, Ont., in dolomites of Guelph Formation, (1863) p. 340.
- Building stones—*Cont.*
in Lanark Co., Ont., from limestone of group IV., (74-75) p. 150.
of the Manitoulin Islands, (63-66) p. 178, and (66-69) E. p. 116, F. p. 131.
of Nanaimo Harbour, B.C., (71-72) p. 84.
of New Brunswick, central part, sandstones, (72-73) p. 229.
of Southern New Brunswick, (70-71) pp. 233-235.
note on quarries for, in Northern New Brunswick, character of beds, (79-80) p. 46 D.
of Ontario and Quebec, notes on, characters of, with localities, (1863) pp. 810-831.
near Pigeon Lake, Montreal River, reddish quartzite, (75-76) p. 304.
in Peace River Pass, material suitable, (75-76) p. 82.
between Chaudière and Trois Pistoles rivers, Que., (66-69) E. p. 140, F. p. 156.
South Thompson River, B.C., granite suitable for masonry, (77-78) p. 81 B.
Thunder Bay and Nipigon districts, (66-69) E. p. 363, F. p. 401.
of east part of Vancouver I., note on marbles, (73-74) pp. 101-102.
of York and Carleton Cos., N.B., granite, syenite, felsite, etc., (82-84) pp. 30-31 G.
table of density and porosity of various, (63-66) pp. 281-283.
hardening by drying, (63-66) p. 281.
effect of porosity on, (63-66) p. 281.
- Buis, G., report of gas trials of Albion coal at Halifax, (66-69) E. p. 435, F. p. 486.
report on coal from Sydney main seam, N.S., gas return, evaporative power, (72-73) p. 244.
- Bull Meadow, B.C., description of trails eastward, character of surface of country, (77-78) p. 59 B.
- Bull Moose Hill, Kings Co., N.B., rocks exposed, (70-71) p. 80.
Lower Carboniferous rocks of, (70-71) p. 208.
- Bulls Creek, Richmond, Carleton Co., N.B., basal beds of Silurian at, (82-84) p. 9 G.
near Woodstock, N.B., note on copper mining at, (82-84) p. 28 G.
- Bulls Head Mountain, Peace River, *see* Horses Head Mountain, and Buffalos Head Mountain, (75-76) pp. 74, 150.
- Bulls Head and Peace Buttes, situation of, (82-84) p. 18 C.
- Bulstrode Tp., Que., Hodges peat machine in operation, (63-66) p. 285.
copper localities, (63-66) p. 315.
- Bumastes Barriensis*, Murchison, wood-cut of, (1863) p. 319.
- Bungay Tp., Que., middle division of Potsdam Formation, (66-69) E. p. 129, F. p. 144.
- Bunker Hill, rocks of Welshport, Campobello, N.B., (70-71) p. 132.

- BUNNING, W. T., experiments on Newcastle coal, re. smoke trials, (66-69) E. pp. 428-430, F. 477-479.
- Buprestis saxigena*, Scudder, description of from Tertiary of Nicola River, (77-78) p. 180 B.
- Buprestis sepulta*, Scudder, description of from Tertiary of Nicola River, (77-78) p. 180 B.
- Buprestis tertiaria*, Scudder, description of from Tertiary of Nicola River, (77-78) p. 179 B.
- BURGESS, MR. H. B., estimate of size of Lake Mistassini, (70-71) p. 285.
- Burgess Tp., Ont., occurrence of apatite referred to, (1863) pp. 460-461.
- opalescent albite and red orthoclase found in, (1863) p. 477.
- apatite deposits of, (1863) p. 761.
- apatite in veins, analysis of, (63-66) p. 203.
- analysis of iron pyrites, (63-66) p. 217.
- analysis of serpentine from, (1863) p. 472.
- copper pyrites reported in, (1863) p. 514.
- occurrence of corundum in noted, (1863) p. 499.
- graphite discovered by Dr. Wilson, of Perth, noted, (1863) p. 794.
- heavy-spar found in, (63-66) p. 202.
- description of perthite from, (1863) p. 474.
- note on perthite as an ornamental stone, (1863) p. 833.
- serpentine discovered in, reference to analysis of, (1863) p. 824.
- crystals of sphene reported, (1863) p. 503.
- spinel recorded from, (1863) p. 499.
- Rideau Lake, veins of apatite, (63-66) p. 227.
- apatite in profitable quantities, (63-66) p. 229.
- crystalline limestone, (63-66) p. 226.
- notes on Laurentian limestones of, (63-66) pp. 224-229.
- pyroxene rocks of lot 4, R. VI., (63-66) p. 226.
- crystals of serpentine, (63-66) p. 204.
- Burial among Haida Indians, customs, monumental posts, (78-79) p. 132 B.
- of Indian medicine men, Haida Indians, (78-79) p. 123 B.
- Burke Channel, coast of British Columbia, rocks near entrance, height of mountains, (74-75) p. 75.
- Burkes Cove, The Narrows, St. John Co., N.B., actinolite at, (70-71) p. 238.
- Bürkner & Ellerhausen's pit, on west fault, Pictou coal-field, (66-69) E. p. 79, F. p. 88.
- Burleigh Falls, Smith Tp., Ont., the Trenton rock exposed at, (1863) p. 190.
- Burleigh road, Ont., traversed by Vennor, 1866-68, (66-69) E. p. 144, F. p. 159.
- Burlington Bay, Ont., upper part of Medina Formation exposed on north side of, (1863) p. 312.
- lacustrine deposit of Burlington Heights overlying Erie clay, mammoth remains in, (1863) p. 914.
- slush salt, manufactured 1812-15 from salt springs, (74-75) p. 287.
- Burlington Heights, mammoth and wapiti remains in sands of, (1863) p. 914.
- Burlington, Vt., red sand-rock extends to, (1863) p. 281.
- Burnaby Island, Q.C.Is., description of, (78-79) pp. 20-21 B.
- diagrammatic section of rocks in Section Cove, (78-79) p. 56 B.
- Burnaby Strait, Q.C.Is., general description of, (78-79) p. 19 B.
- rocks of, massive green rocks, (78-79) p. 55 B.
- Burning of forests on edge of plains, N.W.T., reference to, (74-75) p. 55.
- Burnt Cape, Pistolet Bay, Nfld., note on rocks of, (1863) p. 873.
- Burnt Harbour, Lake Superior, rocks of, (76-77) p. 219.
- Burnt Head, N.S., effect of ignition of Hub coal seam, (74-75) p. 266.
- Burnt Hill Brook, S. W. Miramichi, N.B., sulphuret of molybdenum, (66-69) E. p. 206, F. p. 229.
- reference to molybdenite of, (79-80) p. 45 D.
- Burnt Hill, near Miramichi River, N.B., rocks of, (66-69) E. p. 193, F. p. 213.
- Burnt River, see Rivière Bruél, Peace River, (79-80) pp. 52, 118, 120 B.
- Burnt Lake, Hastings Co., Ont., slates of divisions C 2 and C 3, (66-69) E. p. 156, F. p. 173.
- Burnt mines, Pictou coal-field, (66-69) E. pp. 76, 87, F. pp. 84, 97.
- pits, now filled by débris, (66-69) E. p. 89, F. p. 100.
- Burat Point, Lake Témiscouata, Que., conglomerate of, (1863) p. 421.
- Burgess, North, Ont., Long Lake, rocks of, apatite veins, (63-66) p. 224.
- rocks of, vein of apatite, lots 9 and 10, R. V., (63-66) p. 224.
- see also North Burgess.
- Burnt Point, N.S., section of Laurentian rocks at, (76-77) p. 406.
- Burnt Rapid, Athabasca River, rocks seen, terraced cliffs, lignite, (82-84) p. 13 CC.
- Burntwood Lake, north of Cumberland House, serpentine reported on, (79-80) p. 13 C.
- Burntwood River, Split Lake, rocks at mouth of, (78-79) p. 13 C.
- Bur oak, note on northern limit of in Canada, (79-80) p. 49 C.
- Burrard Inlet, B.C., coal in thin seams, (76-77) p. 145.
- coal-bearing rocks of, (76-77) pp. 188-190.
- map showing Tertiary rocks of, scale 8 m. = 1 in. accompanying (76-77).
- Tertiary rocks with impressions of plants, (82-84) p. 10 B.
- Burrows River, Que., grey marble at bridge on, (1863) p. 432.

- Burton band, crystalline limestone, Georgian Bay, (76-77) p. 203.
- Burton, Sunbury Co., N.B., ridges of sand, (82-84) p. 24 G.G.
- Burton Township, Ont., crystalline limestone of, (76-77) p. 203.
- Bushby Inlet, Georgian Bay, geology of coast to Partridge Bay, (76-77) p. 197.
- Bushel, size of French Canadian, (73-74) p. 247.
- Bustard Island, near mouth of French River, Ont., gneiss of, (76-77) p. 202.
- Butchers Flat, Fraser River, B.C., Selwyn party camp at, 1871, (71-72) p. 22.
- barometer heights of hills near, (71-72) p. 22.
- shales and thin limestones at, (71-72) p. 63.
- Bute Inlet, B.C., moraines at mouth of, (78-79) p. 100 B.
- BUTLER, CAPT., reference to journey up Peace River, (75-76) p. 30.
- Butlers Cove, Grand Lake, N.B., section of rocks of coal formation, (72-73) p. 209.
- Butler Sta., C.P.R., Huronian schists west of, (80-82) p. 12 C.
- gneiss at, characters and altitude, (80-82) p. 12 C.
- Butte du Portage, Amherst Is., Magdalen Is., section of rocks at, (79-80) pp. 3-4 G.
- Butte Ronde, Alright I., Magdalen Is., rocks exposed at, (79-80) p. 6 G.
- Butternut, range of trees in Canada, (79-80) p. 53 C.
- Butternut Ridge, prominent in topography of Southern New Brunswick, (70-71) p. 17.
- Lower Carboniferous fossils in, near Studholm, N.B., (70-71) p. 208.
- Buttons Bay, near Churchill, character of shores of, (78-79) p. 22 C.
- Button Islands, Hudson Strait, height of, (82-84) p. 17 DD.
- Byers Brook, Str. of Canso, N.S., Devonian strata exposed on, (79-80) p. 41 F.
- Bygrove mine, South Sherbrook Tp., Ont., partial analysis of iron-ore, (71-72) p. 123.
- magnetic iron-ore, (70-71) p. 313.
- magnetic iron-ore, (72-73) p. 161.
- note on work done, quality of ore, horizon of, (74-75) pp. 121-122.
- Byng Inlet, Georgian Bay, description of, rocks of, (76-77) p. 201-202.
- Bytownite from near Ottawa, analysis of, (1863) p. 479.
- analysis of allied felspar from Hole-in-the-Wall, Tudor Tp., Ont., (74-75) p. 310.
- CAAMANO, JACINTO, note on, voyage of, to north end of Queen Charlotte Islands, B.C., (78-79) p. 12 B.
- Cabbage Cove, Petite de Grat Is., N.S., character of coast at, (79-80) p. 38 F.
- Cabineau River, Lake Temiscouata, Que., Gaspé Series on, (1863) p. 422.
- Cabistachuan Bay, Lake Mistassini, Cambrian limestones, (70-71) pp. 294-295.
- Cabot Head, Georgian Bay, dolomite band at summit of Medina, fossils of, (1863) p. 319.
- elevation of, thickness of Clinton and Niagara rocks exposed on, (1863) p. 332.
- ridges of shingle above lake level, (1863) p. 912.
- Cache Creek, B.C., position of settlement at, road to Savonas ferry, (71-72) p. 24.
- interesting plants found at, (75-76) p. 123.
- Cache Creek to Kamloops, B.C., description of waggon road, (77-78) p. 13 B.
- Cache Creek Group, upper division, fossils of, (71-72) pp. 60-61.
- lower division, extent, character, fossils, (71-72) pp. 61-62.
- relations of, general note, (76-77) p. 89.
- systematic position, (77-78) p. 173 B.
- representatives of on Babine Lake, B.C., (79-80) p. 106 B.
- represented in Marble Cañon, B.C., structure, fossils, section, etc., (77-78) pp. 89-91 B.
- rocks of Mt. Selwyn, probably part of, (75-76) p. 80.
- rocks referable to, in Similkameen Valley, (77-78) pp. 86-87 B.
- representatives on Stuart Lake, B.C., (79-80) p. 106 B.
- of Bonaparte River, B.C., age determined, fossils of, (77-78) pp. 93-94 B.
- Carboniferous age of established, equivalency with Cascade Crystalline Series, contemporaneous volcanics, (77-78) p. 169 B.
- represented on Coquihalla River, B.C., (77-78) p. 72 B.
- anthracitic carbon in, on Lower Nechacco River, B.C., (76-77) p. 57.
- lower part, Stuart Lake, B.C., between Fraser River and Coast Range, (76-77) pp. 55-58.
- limestones of Stuart Lake, probably part of, (75-76) p. 78.
- shales on Salmon River crossing, west of McLeod Lake, B.C., (75-76) p. 79.
- Cache Lake, Ground Hog River, Moose River district, rocks of, (80-82) p. 7 C.
- Cacouna Island, Que., band of quartzite, Sil-lery, (1863) p. 260.
- Cacouna Seignior, Que., note on bog-ore deposits in, (1863) 684.
- Cacouna, Que., limestones of Lower Potsdam, in vicinity of, (66-69) E. p. 127, F. p. 141.
- Cacouna Tp., Que., 2nd division of Potsdam, (66-69) E. p. 129, F. p. 144.
- Cacoxenite, occurrence of, at Elizabethtown, Ont., (74-75) p. 305.

- Cadboro Bay, B.C., gneiss, dioritic, with mica, (71-72) p. 90.
note on rock specimen from, (71-72) p. 99.
- Cadots River, character of Peace River below, (75-76) p. 158.
- Caelidia columbiana*, Scudder, description of, from Tertiary of Similkameen, B.C., (77-78) p. 184 B.
- Cage Pit, Albion mines, N.S., extent of working, gas in, (66-69) E. p. 92, F. p. 103.
gas trial of coal from, at Pictou, (66-69) E. p. 434, F. p. 484.
section of Deep seam at eastern face and to the west, (66-69) E. p. 92, F. p. 103.
- Cage Pit seam, Albion mines, N.S., analysis of coal by G. Broome, (66-69) E. p. 374, F. p. 415.
Prof. How's analysis of coal, (66-69) E. p. 375, F. p. 416.
assays of coals, J. W. Dawson, (66-69) E. p. 374, F. p. 415.
character of ash from coal, (66-69) E. p. 375, F. p. 416.
section by J. W. Dawson, (66-69) E. p. 373, F. p. 414.
- Cainozoic rocks of Peace, Parsnip and Crooked rivers, B.C., (75-76) pp. 70-72.
- Cairn Hill, South Saskatchewan River, near Bow and Belly rivers, note on cairn, (82-84) p. 20 C.
- Cairns of boulders in Southern Alberta, note on, (82-84) p. 20 C.
- Cairn on Sun-dial Hill, description by J. C. Nelson, (82-84) p. 28 C.
- Calabogie Lake road, Ont., dolomites of group II, (74-75) p. 134.
trough of rocks, (76-77) p. 249.
slight incline of schists and hornblende slates of (76-77) p. 250.
exploration around, (76-77) p. 251.
- Calais, St. Croix River, N.B., rocks of the Laurentian, syenite, (70-71) p. 48.
- Calamites* in Millstone Grit on Lake Ardoise road, N.S., (76-77) p. 447.
- Calcareous ash rocks of Harriet Harbour, Skincuttle Inlet, Q.C.Is., (78-79) p. 52 B.
beds of Copper-bearing Series, (66-69) E. p. 324, F. p. 357.
deposits on Chilcotin and Nazco rivers, B.C., (75-76) pp. 264-265.
gneisses in Huronian on Oxford Lake, Keewatin, (77-78) p. 21 CC.
gneiss in division B., Shuswap Lake, B.C., (77-78) p. 97 B.
hornblendic rock, Victoria Mine, Garden River, Ont., (76-77) p. 212.
sandstones of Coal Measures, N.S., (74-75) p. 198.
slates of Northern New Brunswick, age given by Gesner, (70-71) p. 19.
slates of Carleton and Victoria Cos., N.B., (70-71) pp. 249-250.
spar, examples of found in Ontario and Quebec, (1863) pp. 454-455.
- Calcareous—*Cont.*
spar, in quartz veins, Eastern Townships, Que., (63-66) p. 85.
tufa, in York Tp., Ont., on tributary of Don River, (1863) p. 455.
tufa, deposits of, suitable for lime making, in Ont., (1863) p. 804.
veins, of the Laurentian, (63-66) p. 187.
vein enclosing apatite, N. Elmsley, Ont., (63-66) p. 229.
- Calcareous Formation, general description of, with sections and figures of fossils, (1863) pp. 110-122.
claystone in, on Grenville Canal, note on, (1863) p. 113.
distribution of, in New York and Canada, (1863) pp. 114-122.
apparently wanting west of Thousand Islands, (1863) p. 118.
distribution of, in Ontario, from Beckwith to Prescott, (1863) p. 118.
wanting east of Chicot fault, Que., (1863) p. 119.
anticlinal folds in Ottawa Valley, (1863) p. 116.
represented in Newfoundland section of Quebec Group, (1863) p. 879.
distribution of, in valley of Ottawa River, (1863) pp. 115-118.
outlier in Ottawa Valley, concealing limestones and schists of Laurentian, (76-77) p. 256.
in Ottawa Valley, between Arnprior and Castleford, (76-77) p. 257.
note on rocks of, (1863) p. 619.
note on, (63-66) p. 236.
- Calcareous fossils, wood-cuts of, (1863) pp. 113-122.
found near Ste. Geneviève Island, Gulf of St. Lawrence, list of, (1863) p. 122.
- Calcareous sandrock of New York, note on character of and relation to Potsdam, (1863) p. 110.
used for building purposes, note on, (1863) p. 118.
- Calcite, varieties of, and distribution in Ontario and Quebec, (1863) pp. 454-457.
in Laurentian rocks, (63-66) p. 200.
localities of occurrence in Southern New Brunswick, (70-71) p. 237.
occurring with apatite in Ottawa Co., Que., (77-78) p. 15 G.
with magnetic iron-ore, localities cited, effect of, (73-74) p. 199.
with hematite, note on localities of occurrence, (73-74) p. 220.
- Calcopyrite in apatite-bearing rocks of Ottawa Co., Que., (77-78) p. 36 G.
- Calcspar, "Boulder mine," vicinity of Garden River, calcspar with galena, (76-77) p. 211.
at Gros Cap, Lake Superior, (76-77) p. 220.
at Meganatawan River, Ont., (76-77) p. 202.
at Patridge Bay, Ont., (76-77) p. 197.
at La Rosseau Rouge, L. Superior, (76-77) p. 219.

- Calcspar—Cont.**
 veins in felsite of Little Loran, N.S., (77-78) p. 7 F.
 of Stobie's slate location, near Echo Lake, Ontario, veins of, (76-77) p. 210.
 for lime, vein of, near Tadousac, Que., (1863) p. 804.
- Caldwell Lake, Levant Tp., Ont.,** red hematite in gneiss belt, (74-75) p. 130.
- Caledon Tp., Ont.,** indentation in outline of Clinton, on Credit River, noted, (1863) p. 315.
 exposures of Niagara Formation, on Credit River, Ont., (1863) pp. 327-328.
- Caledonia Mountains, N.B.,** topographical situation, (70-71) p. 17.
 rocks of, (76-77) p. 353.
- Caledonia mine, N.S.,** extent of area worked, (72-73) p. 263.
 Phelan seam, quality, (72-73) p. 263.
 surface and underground works, (72-73) pp. 263-264.
 ventilation and production, (72-73) p. 265.
 statistics of men employed, expenditure, etc., (72-73) p. 290.
- Caledonia Springs, Ont.,** character of water in springs, reference to analyses of, (1863) p. 535.
 changes in composition of water, comparative analysis of, carbonic acid, (63-66) pp. 278-279.
 analyses of mineral water from intermittent and gas spring, (1863) pp. 548-549.
 analyses of mineral water from gas, saline and sulphur springs, (1863) p. 549.
 different mineral springs arising very near each other, (1863) p. 562.
- Caledonia Tp., Ont.,** peat deposits noted, (1863) p. 780.
- Caledonia works, Albert Co., N.B.,** bituminous shale at, (70-71) p. 230.
- Calgary, Alta.,** situation of, Bow River valley at, (82-84) p. 31 C.
 Porcupine Hill beds in banks of Elbow River, (82-84) p. 82 C.
- Calhoun's Mill, N.B.,** section of Lower Carboniferous rocks, on Intercolonial Ry., (76-77) p. 378.
 outcrop of syenite, (77-78) p. 6 D.
- California, alluvial gold washings, (63-66) p. 88.**
 hydraulic methods used in mining, (63-66) p. 68.
- Callina Corners, Kings Co., N.B.,** Huronian rocks near, (70-71) p. 81.
- Calling River, N.W.T.,** description of valley of, rocks *in situ*, clay ironstone, (73-74) p. 71.
 character of banks of, height, (73-74) p. 72.
see also Qu'Appelle River.
- Calorific power of coals and lignites, method of determining, experimental and theoretical, (82-84) pp. 4-5 M.**
 of lignitic coals from Southern Alberta, (82-84) pp. 26-32 M.
- Calorific power—Cont.**
 of coals from Southern Alberta, (82-84) pp. 32-41 M.
 of lignite from Edmonton, Alta., (82-84) p. 15 M.
 of lignite from Grassy Island, Bow River, (82-84) p. 19 M.
 of lignite from Milk River Ridge, north side, (82-84) p. 25 M.
 of lignite from Red Deer River, mouth of Rosebud River, (82-84) p. 15 M.
 of lignite coal from Big seam, N. Saskatchewan River, (82-84) p. 14 M.
 of lignite coal from South Saskatchewan, near Medicine Hat, (82-84) pp. 11-13 M.
- Calumet Falls, Ottawa River, analyses of loganite from, (1863) p. 491.**
 occurrence of apatite crystals at, noted, (1863) p. 461.
 crystals of brown tourmaline, (1863) p. 493.
 crystals of sphene reported at, (1863) p. 503.
- Calumet Island, analysis of serpentine from, (1863) p. 472.**
 scapolite crystals in masses, in limestone, (1863) p. 474.
 deposits of marl noted on, (1863) p. 765.
- Calumruadh Brook, N.E. Margaree River, N.S.,** pre-Cambrian rocks of, (82-84) p. 26 H.
- Calymene Blumenbachii** Broingsniart, wood-cut of, (1863) p. 188.
- Calypso borealis**, note on common occurrence of, in B.C., prized as food by Indians, (75-76) p. 138.
- Calypsites** (Nov. gen.) relations of, *C. antediluvianum*, Scudder, description, fossil insect from Quesnel, B.C., (75-76) p. 270.
- Cam Brook, N.S.,** Carboniferous rocks of, (76-77) p. 439.
- CAMBIE, H. J.,** rocks collected by, (76-77) p. 88.
 extract from report on country between Dunvegan and Pine River, (79-80) pp. 61-63 B.
- CAMBIE & TRUTCH,** report on Skagit River, B.C., quoted, (77-78) p. 47.
- Cambria phosphate mine, North Burgess, Ont.,** quantity mined, (71-72) p. 126.
 statistics for 1871, (71-72) p. 147.
- Cambrian System as defined by A. R. C. Selwyn, (77-78) p. 15 A.**
 divisions to be included in, (78-79) p. 5.
 rocks of interior of Gaspé Peninsula, (82-84) pp. 14-15 F.
 rocks of Lake Mistassini belonging to the, (70-71) pp. 294-295.
 rocks of New Brunswick belonging to the, as out-lined by Gesner, (70-71) p. 19.
 general summary of distribution of bands or troughs of rocks in Southern New Brunswick belonging to, (78-79) pp. 6-8 D.
- Cambridge, Mass.,** longitude of observatory used by Capt. Ashe, (1863) p. 9 Atlas.
- Cambridge Tp., Ont.,** distribution of Trenton Group in, (1863) p. 170.

- Cambridge Tp., N.B., Carboniferous rocks of, (72-73) p. 213.
- Cambro-Silurian, definition and use of term in Geological Survey Reports, (78-79) p. 5.
- rocks of Gaspé, report by R. W. Ellis, (80-82) pp. 16-31 DD.
- of Gaspé, Grand Pabos River, character of, (82-84) pp. 30-31 E.
- of Southern New Brunswick, dark argillites, rocks included in, fossils found, (78-79) pp. 8-9 D.
- of New Brunswick, note on general distribution and surveys made to date, (79-80) pp. 22-23 D.
- rocks of North-eastern New Brunswick, (79-80) pp. 23-29 D.
- rocks of Eastern New Brunswick and Gaspé, parts explored and notes, (80-82) pp. 15-17 D.
- of Northumberland Co., N.B., on Dungarvon and Renous rivers, (80-82) pp. 16-17 D.
- rocks of York and Carleton Cos., N.B., former reports on referred to, general description of northern and southern belts, (82-84) pp. 10-23 G.
- of York and Carleton Cos., N.B., table giving supposed succession, (82-84) p. 13 G.
- basins of, in Saguenay district, Que., (82-84) pp. 10-16 D.
- Camden Tp., Addington, Ont., the escarpments of Trenton Group crossing, (1863) p. 185.
- Camden Tp., Kent Co., Ont., record of wells, (63-66) p. 245.
- Camels Hump Mt., B.C., character of country in vicinity, boulder clay, (77-78) p. 59 B.
- limestone of, (77-78) p. 164 B.
- Camerella antiquata*, Billings, wood-cut of, from Swanton, Vt., (1863) p. 284.
- Camerella calcifera*, Billings, wood-cuts of, (1863) p. 231.
- Camerella hemiplicata*, Hall, wood-cuts of, (1863) p. 168.
- Camerella longirostra*, Billings, wood-cut of, (1863) p. 127.
- Camerella Panderi*, Billings, wood-cuts of, (1863) p. 143.
- Camerella varians*, Billings, wood-cuts of, (1863) p. 127.
- Camerella Volborthi*, Billings, wood-cuts of, (1863) p. 143.
- CAMERON, ALEXANDER, referred to, (76-77) pp. 402, 407, 451.
- Cameron Brook, West Bay, N.S., fossiliferous shale and sandstone, (79-80) p. 69 F.
- North Bay, Ingonish, N.S., graphitic slates and gneissic rocks, (82-84) p. 17 H.
- South-west Margaree River, N.S., sandstones, grits and conglomerates of, (82-84) p. 45 H.
- Cameron Lake, Ont., height of, (1863) p. 11.
- Cameron's location, Lake Superior, assay of quartz from, (76-77) p. 479.
- Cameron's property, apatite deposits, lot 27, R. VII., East Portland, Que., (82-84) p. 18 J.
- Camp Alexander, Nipigon River, Ont., rocks at, (66-69) E. p. 339, F. p. 374.
- wagon road suggested to Nipigon Lake, (66-69) E. p. 364, F. p. 403.
- Camp River, Canoe River, B.C., latitude and elevation of C.P.R. camp on, (71-72) p. 45.
- winter camp, C.P.R. party (71-72) pp. 71-72.
- CAMPBELL, JOHN, on horizon of gold veins in Nova Scotia, (70-71) p. 262.
- reference to description of Cape North, N.S., by, (82-84) p. 6 H.
- Campbells Brook, N.S., iron-ore vein west of, levels to, (72-73) p. 21.
- felsites of, (75-76) p. 376.
- section of crystalline limestone series on, (79-80) p. 20 F.
- Campbells Corners, Carleton Co., N.B., description of iron-ore deposits, (74-75) p. 98.
- Campbells Creek trail, south from Kamloops, B.C., (77-78) p. 27 B.
- Campbell Hill, N.S., diorite of, (77-78) p. 19 F.
- Campbell Island, St. John River, N.B., conglomerates, (66-69) E. p. 197, F. p. 218.
- Campbell Islands, Lennox Passage, N.S., note on loose rocks of, (79-80) p. 59 F.
- Campbell or Northern mine, Boulardrie District, N.S., output, (74-75) p. 249.
- Campbell Point, Richmond Co., N.S., building sand, (79-80) p. 125 F.
- Campbell River, N.B., mining leases for gold taken out, (66-69) E. p. 209, F. p. 232.
- branch of Tobique River, N.B., Silurian rocks on, (79-80) p. 15 D.
- Campbellton area, Sydney coal-field, N.S., geological structure, section of beds to syenite, (73-74) p. 174.
- Campbellton, N.B., mouth of Restigouche River, Devonian rocks of, basal beds, fossil plants found at, (79-80) pp. 11-12 D.
- fossil fishes from Devonian rocks of, descriptions referred to, (80-82) p. 10.
- fossil fishes discovered at, list of, (80-82) pp. 9-10 D.
- horizon of fossiliferous bed of Devonian rocks, (80-82) p. 10 D.
- hills near, of volcanic material, (79-80) p. 39 D.
- Campbellton, P.E.I., sandstone cliffs at, (82-84) p. 14 E.
- Campment d'Ours, Ont., boundary of Huronian near, (1863) p. 63.
- the position and thickness of sandstone on, (1863) p. 84.
- section of Trenton Group exposed on, with fossils, (1863) p. 196.
- diagram showing sections of Silurian and Huronian strata to St. Joseph Island, (1863) p. 196.

- Campobello I., N.B., Kingston Group on, (70-71) p. 131.
galena, copper-pyrites found on, (70-71) p. 228.
- Campton, New Hampshire, analysis of diorite from, (77-78) p. 44 G.
- Camptonectes*, sp. from below Hudson's Hope, Peace River, notes on, (75-76) p. 96.
- Camptonectes extenuatus*, Meek and Hayden, notes on specimens from Iltasyouco River, B.C., (76-77) p. 151.
- Canaan River, N.B., argillites below north fork of, (72-73) p. 214.
examination by Eills of north fork, (72-73) p. 214.
pre-Carboniferous rocks of north fork, (72-73) p. 214.
- Canaan, Vermont, crystals of hornblende and garnets, (1863) p. 433.
- Canada Consolidated Gold Mining Co's mine, Marmora, Ont., buildings erected, assay of ore, treatment of ore, (82-84) pp. 12-13 L.
- Canada Mining Co's mine, Lake of the Woods, assay of ore, (82-84) p. 10 MM.
vein worked near Big Stone Bay, Lake of the Woods, (82-84) p. 13 K.
- Canada Peat Fuel Co., statistics for 1869-71, (71-72) p. 148.
- Canada Plumbago Co., statistics for 1869-71, (71-72) p. 148.
- Canadian apatite, as a material for manufacture of superphosphate, (77-78) p. 13 H.
- Canadian flora of British Columbia, note on, (79-80) p. 168 B.
- Canadian graphite, report on, by Mr. Hoffman, (76-77) pp. 489-510.
- Canadian Lead Mining Co., note on galena locality in Lansdowne Tp., Ont., (82-84) p. 9 L.
- Canadian Pacific Railway, geological examination from English River to Rat Portage, (80-82) pp. 11-13 C.
Thunder Bay to Lake of the Woods, list of Coleoptera collected by Dr. Bell, 1881, (80-82) p. 34 C.
list of elevations on, from Medicine Hat to Bow River Gap, (82-84) p. 153 C.
survey of 1873, list of latitudes determined by C. Horetzky, in B.C., (79-80) p. 164 B.
- Canadian route from Lake Superior to Red River, notes on geology of, (73-74) pp. 87-90.
- Canals of the St. Lawrence, general note on, (1863) p. 10.
- Canastota, N.Y., salt wells at, source of brines, analysis of brines, (66-69) E. p. 219, F. p. 242.
- Canestoga River, Ont., *see* Conestogo River.
- Canise Island, Lake Simcoe, Ont., exposures of Trenton on, (1863) p. 192.
- Cannibalism, no signs of among Haidas of Q.C.Is., (78-79) p. 167 B.
- Cannel coal, analysis of, from Lawson's slope, Pictou coal-field, (66-69) E. p. 391, F. p. 434.
in carbonaceous shale of Coal Measures, (74-75) p. 200.
at Coal-mine Point, Mabou, Inverness, N.S., (82-84) p. 67 H.
- Cannel seam, Glace Bay, N.S., note on origin and analysis of, (74-75) p. 220.
section of, (74-75) p. 213.
section near Table Head, N.S., probable origin of, (74-75) pp. 218, 220.
- Canoes at Skidegate, Q.C.Is., illustration showing, (78-79) frontispiece.
of the Haida Indians, note on, (78-79) p. 145 B.
- Canoe birch, note on range of, in Canada, (79-80) p. 45 C.
- Canoe Lake Brook, Cape Breton Co., N.S., basin of Lower Silurian rocks of, (77-78) p. 14 F.
- Canoe Mountain, Pine River Pass, B.C., direction of river valley below, (79-80) p. 39 B.
origin of name, (79-80) p. 45 B.
probable Devonian rocks of, (79-80) p. 113 B.
- Canoe Point, Shuswap Lake, B.C., band of calcareous rocks, (77-78) p. 96 B.
- Canoe River to Tête Jaune Cache, journal of A. R. C. Selwyn, (71-72) pp. 38-40.
to North Thompson River, return journey, (71-72) pp. 44-45.
- Canoe River, Lac Seul, Ont., length and direction, (72-73) p. 10.
Laurentian rocks on, (72-73) p. 102.
- Canoe River Crossing, B.C., magnetic bearings at, (71-72) p. 38.
terraces marking old lakes, (71-72) p. 55.
panoramic view taken at, referred to, (71-72) p. 40.
- Canoe route, Quinze Lake to Lake Abitibi, Ont., (72-73) p. 120.
from Sturgeon River to Montreal River, Ont., (75-76) p. 298.
- Cañon Creek, B.C., gold workings on, (76-77) pp. 137-138.
- Cañons of the Fraser River, (77-78) p. 9 B.
- Cañon of Kes-la-chick, B.C., note on rocks of, (76-77) p. 40.
on Kes-la-chick River, B.C., view showing rocks at, (76-77) facing p. 70.
on north branch Milk River, rocks of, upper part of Belly River Series, (82-84) p. 37 C.
of Peace River, at Mountain of Rocks explored by Webster, (75-76) p. 47.
plants found, (75-76) p. 151.
at portage, the rocks exposed in coal seam, (75-76) p. 63.
sandstones and conglomerates (Dunvegan) (75-76) p. 74.
sandstones and shales of, lignite seam, (79-80) p. 119 B.
A. R. C. Selwyn's party at, (75-76) p. 47.
of Pine River, B.C., description of, (79-80) p. 42 B.

Cañon—*Cont.*

- on Upper Nechacco River, B.C., general description of, (76-77) p. 43.
 illustration showing rocks at rapids, (76-77) facing p. 44.
- Canonto Tp., Ont., mountains of gneiss in, (76-77) p. 251.
- Canso Road, Guysborough Co., N.S., assay of pyrites from, (80-82) p. 13 H.
- Canterbury Parish, N.B., gneiss and mica-schist in Cambro-Silurian, (82-84) p. 13 G.
 note on diorite dykes of, (82-84) p. 26 G.
- Canterbury Station, Carleton Co., N.B., Cambro-Silurian rocks of, (82-84) p. 14 G.
 discovery of antimony near, (82-84) p. 28 G.
- Canterbury, N.B., limestones in slates, loose fossils, (70-71) p. 248.
- Canton, N.Y., analysis of rensselaerite from, (1863) p. 470.
- Canvas boat used by A. R. C. Selwyn on Peace River expedition, (75-76) p. 35.
- Capacity of salt works in Ontario, table showing, (74-75) pp. 294-295.
- Cap de la Madeleine, Que., description of great deposit of iron ochre, (1863) p. 768.
- Cap de la Madeleine Seigniory, Que., exposure of Trenton formation in, (1863) p. 152.
- Cap Mahue, Abercrombie, Que., note on labradorite rock exposed at, (1863) p. 833.
- Cap aux Meules, Grindstone Island, Magdalen Is., fossils of bituminous limestone near, note by J. W. Dawson, (79-80) p. 7 G.
 rock exposures of, (79-80) p. 5 G.
- Cap le Rond, Madame Is., N.S., slaty argillites and felspathic sandstone, (79-80) p. 35 F.
- Cap à la Roche, Que., section of superficial deposits of, (1863) p. 921.
- Cape Argos, Guysborough, N.S., Devonian rocks of, (79-80) pp. 40-41 F.
- Cape Bald, N.B., note on Permo-Carboniferous rocks at, (80-82) p. 6 D.
 note on age of rocks at, (82-84) p. 11 E.
- Cape Ball, Graham Island, Q.C.Is., clay shoal off, (78-79) p. 33 B.
 diagrammatic section and description of clays and sands, (78-79) p. 92 B.
- Cape Barré, Gaspé, shales and knobbed sandstones, (80-82) p. 19 DD.
- Cape Blomidon, Bay of Fundy, prospects for copper mining near, (82-84) p. 20 L.
 note on deposit of gypsum near, (82-84) p. 24 L.
- Cape Bon Ami, Bay of Chaleurs, fossils found in rocks of, (1863) p. 450.
- Cape Boucher, Nottawasaga Bay, Ont., cliffs of Hudson River shale and sandstone, (1863) p. 213.
- Cape Breton Island, progress of work in for 1876, (76-77) p. 4.
 summary of work done by H. Fletcher, 1877-78, (77-78) p. 6.

Cape Breton Island—*Cont.*

- summary of explorations during 1879, (78-79) p. 4.
 progress of surveys for 1880, by H. Fletcher, (79-80) p. 7.
 summary of explorations for 1881, (80-82) pp. 6-9.
 extract from correspondence by Hartley on coal seams, (70-71) p. 2.
 record of mines and statistics of coal for 1869-71, (71-72) p. 149.
 report by Chas. Robb on surveys in, (73-74) pp. 170-183.
 note on Carboniferous conglomerates of, (73-74) p. 173.
 note on coal-fields of Inverness Co., with an appendix, (73-74) pp. 182-183, 188-191.
 report on explorations and surveys by Chas. Robb for 1874, (74-75) pp. 166-266.
 the Carboniferous rocks of, general description, (74-75) pp. 168-169.
 the Carboniferous rocks of, discussion of subdivisions, (74-75) pp. 169-266.
 the Carboniferous limestone of, (74-75) pp. 169-174.
 the Millstone Grit of, (74-75) pp. 174-194.
 report on Coal Measures of, (74-75) pp. 195-262.
 equivalency of coal seams in coal-basins of, tables showing, (74-75) p. 250.
 map of Cape Dauphin district, scale 4 in. = 1 mile, (74-75) to face p. 251.
 note on serpentines from, (74-75) p. 309.
 report on parts of Victoria, Cape Breton and Richmond Cos., by H. Fletcher, map 1 in. = 1 mile, (76-77) pp. 402-456.
 geological formations recognized in, (76-77) p. 405.
 analysis of hematite from, (76-77) p. 473.
 general character of topography of southern portion, hills, valleys, brooks, lakes, etc., (79-80) pp. 2-3 F.
 report on geology of parts of Richmond, Inverness, Guysborough and Antigonish Cos., by H. Fletcher, (79-80) pp. 1-125 F.
 surveys necessary in northern part of, to construct map, unexplored areas, (80-82) pp. 7-8.
 geology of northern part of Inverness and Victoria Cos., maps 1 m. = 1 in., (82-84) pp. 5-98 H.
 topographical features of northern part, (82-84) pp. 5-6 H.
- Cape Breton County, N.S., list of collieries in operation, with statistics, (72-73) p. 210.
 supplementary report on collieries in operation in, (73-74) pp. 184-188.
 assay of galena from between Loch Lomond and Mira, (80-82) pp. 13 H.
 description and analyses of coal seams worked in, (72-73) p. 290.
 Carboniferous conglomerate and limestone, (77-78) pp. 23-24 F.
 notes on economic minerals, (77-78) pp. 28-32 F.
 pre-Silurian rocks of, (77-78) pp. 4-10 F.

- Cape Breton County, N.S.—*Cont.*
 Lower Silurian rocks of, (77-78) pp. 11-16 F.
 Millstone Grit in, (77-78) pp. 24-25 F.
 surveys used in making map of, (77-78) p. 2 F.
 map issued in 1884 of part of, sheet No. 17, scale 1 m. = 1 in., (Loch Lomond Sheet).
 note on capabilities of soil, scenery, inhabitants, etc., (77-78) p. 25 F.
 report on Sydney coal-mines, (72-73) pp. 238-289.
 report on part of, by H. Fletcher, included in, (76-77) pp. 402-456.
 report on explorations by H. Fletcher, with map, Louisbourg Sheet, scale 1 m. = 1 in., (77-78) pp. 1-32 F.
 superficial geology of, (77-78) pp. 25-28 F.
- Cape Calvert, Calvert Is., B.C., height of hills, gray gneiss, (74-75) p. 75.
- Cape Cannon, Gaspé rocks of, *see* Barry Cape, (1863) p. 438.
- Cape Canso, timber of peninsula, character of shore, &c., (82-84) pp. 14-15.
- Cape Chat, Que., copper ore found near, (1863) p. 733.
- Cape Chat River, ascended by Mr. Low, reference to Logan's description, (82-84) p. 11 F.
- Cape Chat sandstones, note as to Lévis age of, (80-82) p. 26 DD.
- Cape Chin, Georgian Bay, Ont., Clinton Formation occurring at, (1863) p. 319.
- Cape Choyé, Lake Superior, gneissic rocks referred to, (1863) p. 48.
 beds of Copper-bearing Series abutting against Archæan, probable fault, (1863) p. 82.
 Huronian rocks of, (76-77) p. 318.
- Cape Chudleigh, Labrador, height of, (82-84) p. 17 DD.
- Cape Commerell, Vancouver I., iron ore reported near, (73-74) p. 101.
 iron ore at, (76-77) p. 146.
- Cape Commodore, Georgian Bay, Hudson River Formation recorded at, (1863) p. 214.
 fossils found at, (1863) p. 216.
 section of Medina and Clinton, thickness of, (1863) p. 318.
 Niagara escarpment west of, (1863) p. 331.
- Cape Cove, Digby, N.S., green schists with chromium, (70-71) p. 273.
- Cape Cove, Gaspé, rocks exposed at Cape d'Espoir, (1863) p. 441.
 upper beds of Devonian in rear of, (80-82) p. 3 DD.
- Cape Crocker, Georgian Bay, rocks of Hudson River Formation recorded, fossils found at, (1863) p. 214.
 consists of Hudson River strata, (1863) p. 319.
- Cape d'Espoir, Gaspé, Bonaventure Formation at, (1863) p. 441.
 note on Silurian in rear of, (80-82) p. 15 DD.
- Cape d'Or, Bay of Fundy, erosion in channel at, (77-78) p. 20 EE.
- Cape Dauphin, Cape Breton Island, work by Robb on geological structure at, (73-74) p. 174.
 section of Coal Measures west to syenite, (73-74) p. 174.
 analysis and examination of dolomite from below Coal Measures, (73-74) pp. 174-175.
 Millstone Grit exposures at, (74-75) p. 183.
 complicated faults, (74-75) p. 258.
- Cape Dauphin Coal district, N.S., summary statement of areas exposed, coal seams, etc., (74-75) pp. 249-250.
 map showing coal district, scale, 4 in. = 1 m., (74-75) to face p. 251.
 the Carboniferous limestones of, (74-75) p. 251.
 general description, area and position of, (74-75) p. 251.
 descriptive report of, (74-75) pp. 251-262.
 metamorphic rocks between Carboniferous and syenite, (74-75) p. 252.
 sections of strata in, (74-75) pp. 252-261.
 section of Carboniferous to syenite of St. Annes Mt., (74-75) pp. 260-262.
 thickness of pre-Carboniferous rocks, (74-75) p. 257.
- Cape Despair, Gaspé, Que., *see* Cape d'Espoir.
- Cape Diamond, Quebec, conglomerate band traced to Mountain street, (1863) p. 230.
- Cape Dundas, Georgian Bay, base of Clinton Formation at, (1863) p. 319.
- Cape Egmont, P.E.I., rocks exposed at, (82-84) p. 14 E.
- Cape Egmont, Cape Breton Island, N.S., rocks of coast near, (82-84) p. 19 H.
- Cape Enragé, Chignecto Bay, conglomerates of Lower Carboniferous, (70-71) 209.
- Cape Fife, Q.C.Is., lagoon along coast at, (78-79) p. 33 B.
 magnetic sand and gold found on shore near, (78-79) p. 33 B.
- Cape Fourchu Is., N.S., rocks along coast at "The Canoe," (70-71) p. 272.
- Cape Gabarus, N.S., felsites of coast near, (77-78) p. 8 F.
 glacial striæ at, (77-78) p. 27 F.
- Cape Gargantua, Lake Superior, gneissic rocks referred to, (1863) p. 48.
 rocks of, amygdaloidal trap unconformable on gneiss, (1863) p. 82.
- Cape Gaspé, Que., description of limestones at, with section, fossils of, wood-cut of corrugated beds, (1863) pp. 391-394.
 galena at, referred to, (1863) p. 517.
 Devonian rocks of, (80-82) p. 9 DD.
 characteristic fossils of middle division of Devonian of Gaspé, (80-82) p. 13 DD.
- Cape Gun, Georgian Bay, cliffs of Clinton Formation at, (1863) p. 319.
- Cape Haldimand, Gaspé Bay, Que., Gaspé sandstones, structure of, near, (1863) p. 396.

- Cape Haldimand anticlinal, Gaspé Bay, course of beds brought up by, (1863) p. 398.
- Cape Hope, Hudson Bay, Huronian bands near, (77-78) p. 10 C.
- Cape Hurd, Georgian Bay, note on section of Niagara Formation on coast east of, (1863) p. 332.
note on Guelph age of some rocks of, (1863) p. 344.
- Cape Jack, Antigonish Co., N.S., Carboniferous rocks of, (79-80) p. 61 F.
- Cape James, Gaspé, Que., greenstone dyke at, (1863) p. 402.
- Cape Jones, Hudson Bay, gold found in veins in dolomite on Dog Island, (77-78) p. 20 C.
- Cape Jourmain, N.B., note on Permo-Carboniferous rocks of, (80-82) p. 6 D.
- Cape Keppel, Admiral Island, B.C., crystalline rocks near, (71-72) p. 90.
- Cape Knox, Graham I., Q.C.Is., description of, (78-79) p. 40 B.
rocks of, (78-79) p. 84 B.
- Cape Lazo, Strait of Georgia, sand and clay deposits of, (78-79) p. 98 B.
- Cape Linzee, Inverness Co., N.S., section of Coal Measures on coast at, (82-84) p. 58 H.
- Cape Loup Marin, Bay of Chaleurs, Carboniferous rocks on Silurian slates, (80-82) p. 8 D.
Silurian rocks exposed at, (80-82) p. 14 D.
rocks below Bonaventure Formation exposed at, (1863) p. 446.
- Cape Macquereau, Gulf of St. Lawrence, two sets of beds at, (80-82) p. 15 D.
pre-Cambrian rocks of, (80-82) p. 17 D.
- Cape Magdalen, attitude of beds along coast, (80-82) p. 20 DD.
- Cape Mamainse, section of Copper-bearing Formation, (63-66) pp. 133-134.
- Cape Maquereau, Bay of Chaleurs, sandstones, equivalent to Sillery, metamorphosed, description of rocks in section, (1863) p. 272.
note on position of rocks, geological age, (72-73) p. 4.
- Cape Marsouin Map-sheet of part of Gaspé Co., Que., gives a colored diagram of section from mouth of Ste. Anne des Monts River to mouth of Cascapedia River, issued in 1884.
- Cape Morien, Cow Bay, N.S., occurrence of coal at, *see* South Head, (74-75) p. 205.
- Cape Mudge, Vancouver I., deposits of sand and clay, (78-79) p. 98 B.
- Cape Norman, Nfld., rocks of coast near, fossils found (1863) p. 872.
- Cape North district, N.S., topographical features of, reference to John Campbell's description, (82-84) pp. 5-6 H.
map of, on scale of 1 m. = 1 in. issued in 1884.
- Cape North, N.S., description of pre-Cambrian rocks of, (82-84) p. 20 H.
- Cape North, N.S.—*Cont.*
conglomerates beneath limestones and gypsum, (82-84) p. 46 H.
scenery of vicinity of, (82-84) p. 85 H.
- Cape Paulet, Georgian Bay, height of escarpment, Clinton Formation at water level, (1863) p. 331.
- Cape Porcupine, Str. of Canso, N.S., rocks similar to those near St. Peters, N.S., (77-78) p. 23 F.
pre-Cambrian felsites of, (79-80) p. 9 F.
slates and quartzites probably of same age as George River limestone, (79-80) p. 17 F.
note on origin of felsite, (79-80) p. 25 F.
note on Devonian sandstones, (79-80) p. 44 F.
probable outlier of Carboniferous, (79-80) p. 61 F.
note on reported discovery of gold, (79-80) p. 123 F.
- Cape Porcupine Station, Guysborough, N.S., calcareous diorite dyke cutting Devonian, west near county line, (79-80) p. 43 F.
- Cape Prince of Wales, Hudson Strait, situation of, (82-84) p. 25 DD.
- Cape Rich, Ont., heavy spar found in shales at, (1863) p. 459.
occurrence of gypsum noted, (1863) p. 459.
terraces and beaches above lake level, tree trunks in, (1863) p. 911.
- Cape Robert, Manitoulin I., cliff of Hudson River rocks, (1863) p. 219.
section of Hudson River Formation, (63-66) p. 171.
- Cape Rosier, Gaspé, Que., section of rocks at, described, (1863) p. 271.
Hudson River rocks, eastern extension of, Lévis beds and fossils of, (80-82) p. 17 DD.
- Cape Rosier Bay, Que., note on greenstone dyke near, (1863) p. 401.
beds containing Silurian and Devonian fauna, note on, (82-84) p. 25 E.
fossils of Upper Silurian from, (82-84) p. 30 E.
- Cape Rouge, Que., cliff of Hudson River Formation at, characters of beds and fossils found, (1863) pp. 201-202.
red and green shales of, (1863) p. 231.
concretionary masses of iron-pyrites in rocks of, (1863) p. 513.
analysis of jasper from Hudson River rocks of, (1863) p. 628.
- Cape Rouge, Cape Breton Island, N.S., copper-pyrites reported at, (80-82) p. 8.
garnetiferous rocks of vicinity, (82-84) p. 21 H.
- Cape St. Ignace road, Que., Potsdam band on, (66-69) E. p. 123, F. p. 137.
rocks exposed along, (66-69) E. p. 137, F. p. 153.
- Cape Santé, St. Lawrence, anticlinal axis in Laurentian at, (1863) p. 96.
disposition of Trenton beds near, (1863) p. 155.

- Cape Santé, St. Lawrence—*Cont.*
 Utica shales of vicinity, distribution, (1863) p. 203.
 rocks suitable for flagging, noted, (1863) p. 829.
- Cape Santé anticlinal, Que., disposition of Trenton Formation on each side of, (1863) p. 155.
- Cape Serpent, Gaspé, shales and knobbed sandstone, (80-82) p. 19 DD.
- Cape Smith, Lake Huron, analysis of Utica shale, pyroschist, (1863) p. 622.
- Cape Smyth, Manitoulin Island, description of Utica shales and fossils of, bituminous shales, (1863) p. 217.
 Hudson River rocks at, thickness of, character of rocks and fossils found, (1863) pp. 217-218.
 Hudson River Formation, thickness, (63-66) p. 171.
- Cape Spencer fault, St. John Co., N.B., (70-71) p. 179.
- Cape Split, Bay of Fundy, tidal erosion at, (77-78) p. 20 EE.
- Cape Southampton, Southampton I., Hudson Bay, general character of, (82-84) p. 34 DD.
- Cape Susan, Inverness Co., N.S., section of rocks on shore south from, (79-80) pp. 108-109 F.
- Cape Tormentine, N.B., note on Permo-Carboniferous rocks of, (80-82) p. 6 D.
 age of rocks at, established by J. W. Dawson, (82-84) p. 18 E.
- Cape Tourmente, Que., estimated height of, (1863) p. 5.
 gneiss and crystalline limestone at referred to, (1863) p. 46.
 Utica shales near, (1863) p. 201.
- Cape Tourelle, Que., pillars of sandstone at, (1863) p. 263.
- Cape Traverse, P.E.I., note on character of rocks at, fossil plants, (82-84) pp. 14-15 E.
- Cape Whale Point, Que., beds exposed on coast at, (80-82) p. 28 DD.
- Cape Wolf, P.E.I., note on gold-bearing strata of, (82-84) pp. 9-10.
 rock exposures at, (82-84) p. 14 E.
 note on supposed gold bearing conglomerate, (82-84) p. 18 E.
 assay of conglomerate for gold, (82-84) p. 4 MM.
 assays of rock, give variable results, (82-84) p. 34 E.
- Cape Wolstenholme, Hudson Straits, note on appearance of, (79-80) p. 21 C.
 views showing outline from fifteen miles distance and of coast east from, (79-80) facing p. 21 C.
- Capel Island, St. Peter's Inlet, N.S., hematitic amygdaloid on small island near, (77-78) p. 20 F.
- Capel mine, Ascot Tp., Que., copper, (63-66) p. 42.
- Capel and Hartford mine, Que., statistics for 1869-71, (71-72) p. 148.
- Capel Point, N.S., coal seams, upper and lower, sections, (74-75) p. 232.
 note on westward continuation of, (74-75) p. 235.
- Capel Point coal seam, note on absence in section on east side of Little Bras d'Or, (74-75) p. 239.
 equivalent, in Boulardrie District, to Stubbart seam, (74, 75) p. 243.
- Capelin Cove, Richmond Co., N.S., gneissoid rocks of, (77-78) p. 9 F.
- Capeling River, Bay of Chaleurs, the Bonaventure Formation at, (1863) p. 447.
- Capital and labour employed in salt manufacture in Ont., (74-75) p. 296.
- Captain Allans Brook, Inverness Co., N.S., Lower Carboniferous rocks of, (82-84) p. 40 H.
- Captain seam, Marsh Colliery, Pictou, N.S., thickness of, (66-69) E. p. 17, F. p. 18.
 trial pits on, Pictou, N.S., (66-69) E. p. 27, F. p. 30.
 continuation of, to the east, (66-69) E. p. 27, F. p. 30.
 contact with North fault, (66-69) E. p. 29, F. p. 32.
- Capucin River, Que., pillars of sandstone near mouth of, referred to, (1863) p. 263.
- Caraquette, Bay of Chaleurs, coal seams at, (79-80) p. 6 D.
- Carbon and hydrogen in fuels, method of determining, (82-84) p. 3 M.
- Carbonaceous matter in chert beds of Thunder Bay, note on occurrence, (1863) p. 68.
- Carbonaceous minerals, bitumens, coals and graphite, notes on distribution in Ontario and Quebec, (1863) pp. 521-529.
 peat, bituminous shales, bitumen and petroleum, (1863) pp. 771-792.
- Carbonaceous shales of Galena Formation, Wisconsin, with analysis of (1863) p. 623.
 Slate Creek, Q.C.Is., description of, by Dr. Harrington, (72-73) p. 61.
 of Coal Measures of Cape Breton, N.S., (74-75) pp. 199-200.
- Carbonate of copper, Burnt Harbour, Lake Superior, (76-77) p. 219.
 of iron, classification of, (73-74) p. 193.
 of lime and magnesia, descriptions and occurrences in Ontario and Quebec, (1863) pp. 454-458.
 of manganese, occurrences of, in Eastern Tps., Que., (1863) p. 508.
 of soda in mineral waters of Canada, note on presence of, (1863) p. 557.
- Carboniferous conglomerate of N.B., analysis of green mineral from, (72-73) p. 300.
 of Watson Brook, Sydney, N.S., composition of pebbles, (75-76) p. 395.

Carboniferous conglomerate—Cont.

- Sydney coal-fields, N.S., thickness, general description of, section, (75-76) pp. 394-398. in Cape Breton, (76-77) pp. 437-441. and limestone of Cape Breton and Richmond Cos., N.S., (77-78) pp. 23-24 F. of Northern Cape Breton, (82-84) pp. 37-47 H.
- Carboniferous fossils from Stuart Lake, B.C., notes on, (75-76) p. 97. from Fossil Point, Peace River, notes on, (75-76) pp. 98-102. from Flathead Valley, B.C., list of and note on, (82-84) pp. 41-42 B.
- Carboniferous intrusions of Southern New Brunswick, general occurrence of, (78-79) p. 23D. limestone, of Cape Breton, descriptions of sections, Sydney Harbour to Morrisons Brook, (74-75) pp. 169-174. of Sydney Harbour, N.S., sections, etc., (75-76) pp. 398-410. in Cape Breton, (76-77) pp. 442-448. South Thompson River, B.C., fossils of, (77-78) pp. 80-81 B. on Similkameen River, B.C., (77-78) p. 86 B. of Northern Cape Breton, (82-84) pp. 47-53 H.
- oil wells, of Virginia and Kentucky, (63-66) p. 240.
- red shales, colour from, in boulder clay of N.B., (77-78) p. 3 EE.
- volcanic rocks of B.C., general note on, (76-77) p. 88.
- Carboniferous Limestone Series of Northern Cape Breton, (82-84) pp. 47-53 H.
- Carboniferous System, thickness and extent, in New Brunswick, (63-66) p. 239. note on occurrences of hematite in, (73-74) pp. 218-219. contact with pre-Cambrian rocks, Morrison road, Richmond Co., N.S., (79-80) p. 65 F. contact with pre-Cambrian, River Denys cross-road, Inverness, N.S., (79-80) p. 100 F. igneous rocks below Millstone Grit in N.B., colouring of beds, (82-84) p. 7 G. in New Brunswick, limits of coal basin, character, (70-71) p. 213. in New Brunswick, list of fossil plants with localities, (70-71) pp. 214-215. of New Brunswick first published report on, (72-73) p. 180. subdivisions adopted by Bailey & Matthew in N.B., (72-73) p. 181. examples showing thin deposits of, in New Brunswick, (72-73) p. 214. in New Brunswick, total area of, (72-73) pp. 223. in Queens, Sunbury and part of York, N.B., (72-73) pp. 180-230. of Southern New Brunswick, subdivisions not clearly marked as in N.S., (78-79) p. 19 D. description of Bonaventure Formation, (1863) pp. 404-405.

Carboniferous System—Cont.

- in Gaspé, relation of Bonaventure Formation to coal-bearing rocks of N.B., (1863) p. 453. of Western Canada, without coal, (79-80) p. 12 A. note on absence of, in Manitoba, (73-74) p. 83. possible occurrence in Queen Charlotte Islands, (78-79) p. 45 B.
- Carboniferous outlier, Flathead Valley, International boundary line, note on, (82-84) p. 27 B. above Woodstock in Carleton Co., N.B., (66-69) E. p. 196, F. p. 218. St. John River, N.B., (66-69) E. p. 188, F. p. 208.
- Carboniferous rocks, of Cape Dauphin, N.S., rocks of, derived from syenite of St. Annes Mt., (74-75) p. 258. Southern Cape Breton, thickness of and general section, (79-80) p. 86 F. Richmond, Inverness and Antigonish Cos., N.S., general note on thickness, faults, subdivisions, (79-80) pp. 54-55 F. detailed descriptions of exposures, (79-80) pp. 55-111 F. Richmond and Inverness, N.S., succession of deposits in, and descriptions of five synclinal basins of, (79-80) pp. 62-111 F. Point Tupper, Str. of Canso, section of, (79-80) pp. 86-88 F. of basin between Glendale and Big Brook, Inverness Co., N.S., (79-80) pp. 97-99 F. on shore north of Judique Harbour, Inverness Co., N.S., section of, (79-80) pp. 106-108 F. at Little Judique Harbour, N.S., section on shore south from, (79-80) pp. 108-110 F. of Northern Cape Breton, (82-84) pp. 37-76 H. thickness at Joggins and Pictou, N.S., (66-69) E. p. 52, F. p. 59. of Long Reach, St. John River, N.B., (70-71) p. 115. of Kent and Northumberland Cos., N.B., (80-82) pp. 3-9 D. discovered in Kings Co., N.B., (71-72) p. 144. in York Co., N.B., report by Chas. Robb, (66-69) E. pp. 176-186, F. pp. 194-206. lower conglomerates, (66-69) E. p. 176, F. p. 194. sandstones and shales, upper conglomerate and coal seams, (66-69) E. p. 177, F. p. 195. descriptions of localities, Magaguadavic section, (66-69) E. p. 179, F. p. 198. descriptions of localities, Oromoco Lake, eruptive mass, (66-69) E. p. 179, F. p. 198. description of localities, Springhill, (66-69) E. p. 181, F. p. 200. description of localities, Kings Clear and Clarks Mt., (66-69) E. p. 182, F. p. 201.

- Carboniferous rocks in York Co., N.B.—*Cont.*
 description of localities, Tay section, (66-69) E. p. 184, F. p. 203.
 description of localities, Nashwauk and S.W. Miramichi, (66-69) E. p. 186, F. p. 205.
 horizontal attitude of upper beds, (70-71) p. 242.
 composition of lower beds, (70-71) p. 242.
 eruptive rocks near Boiestown, (70-71) p. 242.
 of York and Carleton Cos., general description of, soil overlying, unconformity in, (82-84) pp. 6-7 G.
 of Gaspé Peninsula (Bonaventure Series), (80-82) pp. 1-3 DD.
 of Kootenay Valley, note on, (82-84) p. 27 B.
 Carburetted hydrogen gas in rocks, example at Niagara Falls and in oil wells of Western Ontario, (1863) p. 527.
 Cardigan Station, N.B., kame-like ridges in Keswick River, (82-84) p. 23 GG.
 Carey Lake, Guysborough, N.S., note on rocks of, (79-80) p. 48 F.
 Cariboo District, B.C., prices of grain, flour, butter, etc., (71-72) p. 68.
 assays of ore from Van Winkle mine, and vein between Williams Creek and Conklings Gulch, (75-76) p. 429.
 physical characteristics of, (76-77) p. 107.
 localities in, producing gold, (76-77) pp. 134-138.
 assays of gold and silver ores from, (77-78) p. 49 G.
 placer mining, improvements in, hydraulic works recommended, (76-77) p. 114.
 Cariboo Lake, B.C., creeks on north side of, gold workings, (76-77) p. 136.
 Cariboo wagon road, description of, by Jas. Richardson, (71-72) pp. 74-75.
 from Thompson River north, (77-78) p. 13 B.
 Cariboo schists, rocks resembling, on Fraser River, B.C., (76-77) p. 58.
 Caribou in interior of Cape Breton, (80-82) p. 7.
 note on numbers of, etc., (82-84) p. 84 H.
 Caribou Island, Lake Superior, sandstones reported by Admiral Bayfield, (1863) p. 83.
 Caribou Marsh District, N.S., Millstone Grit of, (75-76) p. 412.
 Caribou Marsh road, N.S., Lower Silurian rocks of, (76-77) p. 437.
 copper ore of the, (76-77) p. 451.
 boundary of Lower Silurian on, (77-78) p. 11 F.
 Carillon, Ottawa River, note on claystone in Calciferous at, (1863) p. 112.
 Carleton, N.B., Huronian rocks of St. John Harbour, (70-71) p. 61.
 St. John Group, as exposed at, (70-71) p. 136.
 reference to section by Prof. Hartt, (70-71) p. 171.
 Carleton, N.B.—*Cont.*
 list of fossils from, (70-71) p. 171.
 section of pre-Silurian with schistose beds, inverted section, (77-78) p. 24 DD.
 Carleton, Bonaventure Co., Que., Lower Carboniferous beds at, (80-82) p. 7 D.
 Carleton Co., N.B., shown on map, 8 miles to an inch, (66-69) facing, E. p. 173, F. p. 191.
 central granitic area, (66-69) E. pp. 193-195, F. pp. 214-217.
 non-calcareous slate bands north of granite, (66-69) E. pp. 195-198, F. p. 217-219.
 outlier of Lower Carboniferous in, (66-69) E. p. 196, F. p. 218.
 calcareous slate bands of, (66-69) E. pp. 198-200, F. pp. 219-221.
 economic minerals of, by Chas. Robb, (66-69) E. pp. 204-209, F. pp. 227-232.
 supplementary report by Chas. Robb, (70-71) pp. 241-250.
 Carboniferous outlier in, (70-71) pp. 243-244.
 central granite area of, (70-71) pp. 245-247.
 slate band north-west of granite, characters, (70-71) p. 247.
 calcareous slates of, (70-71) pp. 249-250.
 iron-ore deposits, report by R. W. Ells, with map, (74-75) pp. 97-104.
 report on explorations and surveys of 1881-3 in southern part of, by L. W. Bailey, included in, (82-84) pp. 5-31 G.
 list of glacial striæ and general direction of movement of ice-sheet, (82-84) pp. 8-9 GG.
 map of part of, on Fredericton Map-sheet, issued in 1884.
 and York Co., N.B., report on surface geology of, (82-84) pp. 5-47 GG.
 and York Co., N.B., note on building stones of, (82-84) pp. 30-31 G.
 Carleton Co., Ont., analyses of magnetic iron ore from Fitzroy Tp., (79-80) pp. 15-16 H.
distribution of rocks and minerals in, see Part I, p. 12.
 Carleton Head, Richmond Co., N.S., section of Carboniferous rocks at, (79-80) pp. 74-75 F.
 Carleton Heights, Parish of Lancaster, N.B., lee shoal behind, (77-78) p. 15 EE.
 Carleton's Mill, Little Salmon River, N.B., height of hills and character of valley, (70-71) p. 99.
 Carleton Place, Ont., occurrence of epidiotic gneiss near, (1863) p. 37.
 epidiotic in rocks at, (1863) p. 497.
 epidiotic gneiss found at, ornamental, (1863) p. 833.
 Carlton House, Saskatchewan River, width of river at, (73-74) p. 32.
 to Cumberland House, journal of A. R. C. Selwyn, (73-74) p. 43.
 Carlton, Sask. District, gold washed from gravel in river, (73-74) p. 58.
 boring operations of Geological Survey party at, in 1875, section of drift, (75-76) pp. 283-285.

- Carlisle Settlement, Beccaguimic River, N.B., short kame, description of, (82-84) p. 24 G.G.
- Carmichael area Picton coal-field, Acadia Colliery, Acadia seam, (66-69) E. p. 97, F. p. 109
second seam, trial pit on, (66-69) E. p. 99, F. p. 111.
anticline shown on, (66-69) E. p. 77, F. p. 86.
- Carmichaels Brook, Queens Co., N.B., section of schists, (75-76) p. 362.
- Carnes Creek, B.C., gold workings on, (76-77) p. 141.
- Carnie's mine, Woodstock, N.B., character of iron-ore, (66-69) E. p. 207, F. p. 230.
openings for iron ore in Carleton Co., N.B., at Moody's Hill, (74-75) p. 98.
- Carp Lake, near Fort McLeod, B.C., width of crossing, (75-76) p. 34.
trail along shores of, (75-76) p. 35.
gray garnetiferous gneiss at, (75-76) p. 81.
granites and gneisses, probably Laurentian, (79-80) p. 107 B.
pot-holes and moraines near, (79-80) p. 138 B.
plants seen on trail west of, (75-76) p. 139.
- Carpenter Bay, Moresby I., Q.C.Is., general description of, (78-79) p. 16 B.
rocks of, (78-79) p. 51 B.
glaciation of, (78-79) p. 90 B.
- Carpinus Americana*, Michaux, range of in Canada, (79-80) p. 52 C.
- Carrick Tp., Ont., deposits of marl, (1863) p. 764.
- Carrier Lake, B.C., botanical notes of vicinity of, (75-76) p. 138.
character of country near, moraines, (79-80) p. 31 B.
- Carroll seam, Gardiner mine, N.S., analysis of coal, (72-73) p. 272.
probably same as Fraser seam, Sydney Harbour, section and analysis, (74-75) p. 193.
- Carronbrook, Ont., boring for salt, (74-75) p. 288.
- Carr seam, east of Tow Point, N.S., section of lower and upper, (74-75) p. 224.
- Carrs River, Ont., head of English River, general course, granitic rocks, (72-73) p. 99.
- Carter Point, Long Reach, N.B., red felsites holding Silurian fossils, (77-78) p. 2 E.
- Carvings in stone on beach at Kit-kia-tah Bay, Douglas Channel, B.C., (74-75) p. 78.
- Carved posts, houses and canoes at Skidegate, Q.C.Is., illustration, (78-79) frontispiece.
of Haida Indians, general note on, (78-79) p. 116 B.
description and classification of, (78-79) p. 148 B.
at Cumshewa village, Q.C.Is., illustration, (78-79) facing p. 116 B.
- Carved posts—*Cont.*
Skedans village, Q.C.Is., illustrations, (78-79) facing p. 146 B.
- Carya alba*, Nutt., note on range of, in Canada, (79-80) p. 55 C.
- Carya amara*, Nutt., note on range of, in Canada, (79-80) p. 53 C.
- Cascade Crystalline Series, extent in B.C., (71-72) pp. 63-64.
exposed in Eagle Lake area, upper waters of Chilanco River, B.C., (75-76) pp. 246-247.
general relations of, (76-77) p. 88.
of Coast Range, position of in geological scale, (77-78) p. 173 B.
- Cascade Mountains, (?) seen from Table Mt., Pine River Pass, (75-76) p. 54.
- Cascade Range, B.C., age of uplift, (76-77) p. 104.
general description of, (82-84) p. 8 B.
- Cascade Mountains and Vancouver Island Crystalline Series on coast north of Vancouver Island, (74-75) pp. 75-80.
- Cascade Rapid, Clearwater River, Devonian limestone at, (82-84) p. 26 CC.
Athabasca River, fall at, rocks exposed, (82-84) p. 17 CC.
- Cascade River, Rocky Mountains, announcement of discovery of coal on, (82-84) p. 4.
analysis and calorific power of semi-anthracite from, (82-84) pp. 41-42 M.
analysis of anthracite from, (82-84) p. 41 M.
- Cascades of Christmas Brook, N.S., (76-77) p. 411.
- Cascapedia Bay, Bay of Chaleurs, the Bonaventure Formation and Gaspé Series, (1863) p. 448.
- Cascapedia Lake, Que., height of, above mouth of Salmon Branch, (82-84) p. 9 E.
- Cascapedia River, Gaspé, Que., the Gaspé Series exposed on, (1863) pp. 411-412.
the Bonaventure Formation on, (1863) p. 448.
stratified clays found on, (1863) p. 922.
Lower Carboniferous rocks near mouth of, on Bay of Chaleurs, (80-82) p. 7 D.
Devonian rocks of, (80-82) p. 12 D.
distribution of Silurian on, (82-84) p. 26 E.
surveys made of branches of, (82-84) pp. 8-9.
surveys made in 1883, general description of character of country, (82-84) pp. 9-11 E.
the Devonian rocks of, width of belt, contact with Silurian, (82-84) pp. 20-21 E.
intrusive dolerites of, general description, (82-84) p. 33 E.
- Casco Island, N.B., coastal series of Huronian, (70-71) p. 90.
- Caseville, Huron Co., Ont., rock salt at, (76-77) p. 240.
- Cash's Farm, N.S., Laurentian rocks at, (76-77) p. 423.

- Cassiar District, B.C., mining operations and yield of gold, (76-77) p. 117.
gold mining locations with notes on, (76-77) pp. 138-140.
- Castanea vulgaris*, Lam., note on range of in Canada, (79-80) p. 53 C.
- Castellated sandstones of Milk River Valley near Verdigris Coulee, (82-84) p. 40 C.
- Castle Island, Chateau Bay, Labrador, basalt on, (82-84) p. 10 DD.
- Castle Peninsula, Richmond Gulf, Hudson Bay, illustration and diagrammatic section, (77-78) p. 14 C.
- Castle property, Buckingham, Que., plumbago mine, (73-74) p. 142.
- CASPLEMAN, S., donation to museum, (82-84) p. 19.
- Castor River, Russell Tp., Ont., exposures of Trenton with section at Louck's Mills, (1863) pp. 173-174.
- Cast steel, various processes and methods of making, (66-69) E. pp. 293-298, F. pp. 324-330.
- Cat Portage, Michipicoten River, Ont., character of gneiss, (75-76) p. 336.
- Catalan forges, description of, where used, (66-69) E. p. 270, F. p. 299.
mode of working, material consumed, (66-69) E. p. 271, F. p. 299.
- Cataraqui Point, near Kingston, Ont., the Birdseye and Black River Formation at, note on, (1863) p. 183.
- Cataraqui River, Kingston, Ont., clays of, fossils in, (1863) p. 904.
- Catalogne, N.S., traces of Silurian rocks north of, (77-78) p. 11 F.
- Catalogne Gut, N.S., coal reported in Millstone Grit near, (77-78) p. 25 F.
- Catalogne Lake, N.S., exposures of felsite on railway near contact with Carboniferous limestone, (77-78) p. 8 F.
- Catalogne Point, Mira Bay, N.S., small exposure of Carboniferous limestone, (77-78) p. 23 F.
- Catalogne road, Cape Breton Co., N.S., felsites on, (77-78) pp. 8-9 F.
Lower Silurian, contact with felsites, on, (77-78) p. 11 F.
- Catalogue of the Lower Silurian fossils of Canada, with authors and references, (1863) pp. 936-954.
of specimens in museum, preparation of, (74-75) p. 15.
of Canadian Plants, Part I, publication referred to, (82-84) p. 21.
of plants collected in Vancouver I., British Columbia and Rocky Mts., the Peace River, Athabasca River, and Saskatchewan River to Lake of the Woods, (75-76) pp. 186-232.
of plants collected by Dr. R. Bell in southern part of Basin of Moose River and Michipicoten River, by Prof. J. Macoun, (80-82) pp. 17-28 C.
- Catalogue—*Cont.*
of Canadian minerals for Philadelphia Exhibition, (76-77) p. 1.
- Cathedral, Christ Church, Montreal, density of stone used, (63-66) p. 284.
- Catons Island, Long Reach, N.B., fossiliferous Primordial rocks of, (70-71) p. 116.
section and fossils from St. John Group, (70-71) p. 141.
- to Jones' Creek, Long Reach, N.B., rocks exposed, (70-71) p. 116.
- Catskill Group, position of, in New York series of Devonian rocks, (1863) p. 389.
represented in upper part of Gaspé sandstones, (1863) p. 404.
general note on, (1863) p. 19 Atlas.
- Cattle, note on wintering of, in fertile belt of N.W.T., (73-74) p. 60.
- Cauda-galli Grit, distribution in New York, (1863) p. 359.
- Caughnawaga, Que., Chazy Formation at, (1863) p. 131.
the Trenton Group near, width of band, (1863) p. 140.
quarry for building stone, (1863) p. 817.
beds of limestone capable of being used as marble, (1863) p. 826.
- Causapsal River, branch of Matapedia River, Que., Gaspé limestones on, (1863) p. 415.
extent of Devonian System on, note on, (82-84) p. 20 E.
- Causes of accumulation of iron sands, (66-69) E. p. 262, F. p. 298.
of cessation of apatite mining in N. Burgess, Ont., (74-75) p. 110.
- Caveau Point, Cheticamp, N.S., line of syncline in Coal Measures bring them to near, (82-84) p. 76 H.
- Caverns in Niagara limestone in Derby and Mono Tps., Ont., and at fall on Nottawa River, (1863) p. 334.
- Cave in apatite vein, lot 8, R. V., North Burgess Tp., Ont., (70-71) p. 318.
on McAskill Brook, and also in Bregand Brook, Inverness Co., N.S., (82-84) p. 33 H.
in crystalline limestone near McKenzie Creek, North Mountain, Inverness, N.S., (79-80) p. 23 F.
- Caves on coast west of Cape Dauphin, N.S., (74-75) p. 259.
in crystalline limestones at Robinson Cove, N.S., (77-78) p. 19 F.
in schists of Turner Brook, Forest Glen, N.S., (82-84) p. 25 H.
- Caxton Tp., Que., analysis of mineral water from, (1863) p. 548.
mineral spring referred to, (1863) p. 536.
- Caxton, Augmentation of, Que., deposits of ochre in, (1864) p. 769.
- Cayuga Tp., Ont., exposures of gypsum beds on Grand River, (1863) p. 347.
- Cayuga, Ont., deposit of gypsum at Brown's quarry, (1863) pp. 347-348.

Cayuga, Ont.—Cont.

- section of Water-lime Formation at Jones' tract, (1863) p. 354.
- fossils of Water-lime Formation found at Rattlesnake Falls, (1863) pp. 354-355.
- gypsum deposits of, noted, (1863) p. 762.
- anticline in Oriskany sandstone, (63-66) p. 259.
- Devonian fossils from, purchased for Museum of Survey, (70-71) p. 10.
- Cedar, note on range of in Canada, (79-80) p. 47 C.
- white, northern limit of on James Bay, (77-78) p. 25 C.
- Cedar box used by Haidas, figured on Plate XII., (78-79) B.
- Cedar canoe bailer as used by Haida Indians, Plate VII., illustration of, (78-79) B.
- Cedar Creek, B.C., placers of, (76-77) p. 137.
- Cedar Lake, N.W.T., low country west of, outcrops of Silurian and Devonian (73-74) p. 52.
- limestone exposures on islands in northern part, (75-76) p. 290.
- Cedar Portage, Nipigon River, length of road, trap cliffs, (66-69) E. p. 337, F. p. 372.
- Celestine, description of, at Kingston, Ont., (1863) p. 459.
- Celestite in limestone, Sydney River, N.S., (75-76) p. 399.
- note on deposit on Sydney River, N.S., (75-76) p. 417.
- Cement, of Gaspé, reference to analysis of stone from Magdalen River yielding hydraulic cement, (1863) p. 805.
- made from Nepean limestone, Ont., analysis of, (1863) p. 806.
- from rock at Oneida and Paris, Ont., analysis of, (1863) p. 807.
- of Quebec, note on analysis of limestone character of, (1863) p. 805.
- of Thorold, analysis and strength of, (1863) p. 805.
- magnesian or pozzuolana could be made in Eastern Townships, Que., (1863) p. 757.
- hydraulic, note on composition of, localities yielding suitable materials, (1863) pp. 804-807.
- Cements and mortars, notes on materials in Ontario and Quebec for manufacture of, (1863) pp. 802-807.
- Cement-stone of Quebec, analysis of, (1863) p. 806.
- note on supply of in Southern Alberta, (82-84) p. 138 C.
- on Goldstream, B.C., (76-77) p. 96.
- on Leech River, B.C., (76-77) p. 99.
- of Nepean Tp., Ont., analysis of, (1863) p. 806.
- Centennial Exhibition, work of Survey in completing exhibit for, appropriation for, (75-76) pp. 1-3.
- Centre shoal, definition of as applied to gravel ridges in N.B., (77-78) p. 12 EE.
- Central granitic area of York and Carleton Cos., N.B., (66-69) E. pp. 193-195, F. pp. 214-217.
- Central New Brunswick, soils of, intervalles and terraces, (82-84) pp. 42-43 GG.
- Central Plateau, B.C., soil, climate, crops, etc., (71-72) pp. 67-69.
- volcanic rocks of, (71-72) pp. 56-57.
- Centreville, Camden Tp., Ont., escarpment of base of Trenton Group, (1863) p. 179.
- Centreville Corners, N.B., gneissic ridges with diorite, (77-78) p. 4 E.
- Centronella glans-fagea*, Hall, wood-cuts of, (1863) p. 374.
- Centronella Hecate*, Billings, wood-cuts of, (1863) p. 374.
- Centronella tumida*, Billings, wood-cuts of, (1863) p. 374.
- Cephalopoda of the Birdseye and Black River Formations, wood-cuts of *Orthoceras* and *Cyrtoceras*, (1863) pp. 149-150.
- of the Calciferous Formation, wood-cuts of, *Orthoceras Becki*, *O. Montrealese*, *O. Lamarcki*, *O. sordidum* and *O. deparcum*, (1863) p. 121.
- of the Hudson River Formation, wood-cuts of, (1863) p. 218.
- from Phillipsburgh, Que., wood-cut of *Lituites Farnsworthi*, (1863) p. 277.
- Cercopis Selwyni*, Scudder, description of, from Tertiary of Nine-Mile Creek, B.C., (77-78) p. 183 B.
- Cercyon terrigneus*, Scudder, description of, from Tertiary of Nicola River, B.C., (77-78) p. 178 B.
- Cerium, oxide of, in mineral found at Bay St. Paul, Que., (1863) p. 505.
- Cessation of work at apatite mines in North Burgess, Ont., (74-75) pp. 108-112.
- Ceylon, rocks of, similar to Laurentian, (63-66) p. 197.
- Ceylon graphite, analysis of vein, columnar and foliated, (76-77) pp. 504-506.
- Cha-atl, abandoned Indian village, Gold Harbour, Q.C.Is., (78-79) p. 168 B.
- Chabazite found in traps of Montreal and Chambly, Que., (1863) p. 481.
- occurrence of in apatite beds, Bishops Pit, Templeton, Que., (77-88) p. 35 G.
- var. acadiolite, occurrence of near Swan Creek and Two Islands, Bay of Fundy, N.S., (82-84) p. 28 L.
- Chachée River, Que., exposures of Trenton on, (1863) p. 150.
- Chaffey iron mine, S. Crosby, Ont., situation of, extent of works, ore shipped, value, (71-72) p. 121.
- comparative table of analyses of magnetite, (73-74) p. 211.
- reference to, analysis of ore, (70-71) p. 312.
- note on mode of occurrence of ore, (73-74) p. 196.

- Chaffey iron mine—*Cont.*
percentage of pyrites in ore, (73-74) p. 203.
and Yankee mine, South Crosby Tp., Ont.,
production of iron-ore, (73-74) p. 257.
cost of labour and mining of ore, (73-74) pp. 242-244.
Bedford Tp., Ont., cost of transporting ore,
(73-74) p. 245.
and Mathew's mine, statistics for 1869, (71-72) p. 147.
- Chain Lake, B.C., glaciation on plateau near,
(77-78) p. 137 B.
- Chain of Rocks Brook, Restigouche River, Que.,
terraces in valley, (79-80) p. 18 D.
- Chalcedonic pebbles in conglomerate on Grand
Lake, N.B., (72-73) p. 210.
- Chalcedony, occurrence of noted in Bonaventure
Formation and on Lake Superior,
(1863) p. 500.
formed in fossils by replacing calcite, note
on, (1863) p. 629.
of East Main Coast, Hudson Bay, character
of, (77-78) p. 22 C.
- Chalcocite from Rocky Mountains, assay for
gold and silver, (80-82) p. 15 H.
- Chalcopyrite, occurrence of in copper-ores of
Canada, note on, (1863) p. 515.
composition of, (1863) p. 692.
with hematite, Londonderry, N.S., note on,
(73-74) p. 220.
rarely accompanies magnetic ore, effect on
iron, (73-74) p. 200.
- Chaleur Bay, N.B., list of marine invertebrates
in Leda clay of, (77-78) pp. 29-30.
See also Bay of Chaleurs.
- Chalk Cove, Ross Islands, off Grand Manan,
quartzites of, (70-71) p. 109.
- CHALMERS, ROBT., work by, as assistant to W.
Broad, 1882, (80-82) p. 20.
progress of investigations by, (82-84) p. 13.
letter transmitting report on surface geology
of Western New Brunswick, (82-84)
p. 3 GG.
sketch of work performed during summers
of 1882 and 1883, (82-84) pp. 5-6 GG.
report on surface geology of Western New
Brunswick, York and Carleton Cos., (82-84)
pp. 5-47 GG.
- Chaloupe River, Que., exposures of Trenton
Group on, (1863) p. 149.
- Chamaecyparis Nutkaensis*, Spach., distribution of
in British Columbia, (79-80) p. 174 B.
- Chambers well, Bothwell, Ont., record of, (63-66)
p. 247.
- Chambly, Que., analysis of orthoclase from trachyte
of, (1863) p. 476.
analysis of mineral water from, (1863) p.
550.
examination and analysis of mass of porphyritic
trachyte from, (1863) pp. 657-658.
interstratified floor of trachyte, (1863) p.
209.
analysis showing changes in composition of
mineral springs, (63-66) p. 280.
- Chambly, Que.—*Cont.*
mineral springs near, reference to analyses,
(1863) p. 536.
mechanical examination and analyses of
soils from, (1863) pp. 638, 640.
- Chambly Co., Que., *for distribution of rocks, etc., see Part I, p. 8.*
- Chambly anticline, the Trenton Group crossing,
(1863) p. 140.
- Chambly basin, Hudson River Formation exposed,
with fossils found, (1863) p. 208.
- Chambly canal, Que., heulandite and chabazite
in trachyte of, (1863) p. 481.
- Chamcook Bay, Passamaquoddy Bay, Mascarene
series, faults, (70-71) p. 151.
- Chamcook Harbour, N.B., unconformity, Mascarene
and Perry sandstones, (70-71) p. 29.
- Chamcook Lake (Upper) St. Croix, N.B., syenite
north of, (70-71) p. 52.
intrusive granites of, (70-71) p. 187.
intrusive nature of granite veins, etc., (70-71)
p. 187.
- Chamcook Lakes, Charlotte Co., N.B., Mascarene
series on, (70-71) pp. 151-152.
- Chamcook Mt., Charlotte Co., N.B., rocks of,
surrounded by Mascarene strata, (70-71)
p. 152.
unconformity between Mascarene and Perry
sandstone, (70-71) p. 201.
- Chamouchouan River, Que., *see* Ashuapmouchouan
River, Que.
- Champion ledge, Omica, B.C., assay of
quartz from, (78-79) p. 24 H.
vein of galena at, (79-80) p. 111 B.
- Champlain, Que., mineral springs near, character
of water, (1863) p. 536.
- Champlain Co., Que., note on bog-ore deposits
of, (1863) p. 685.
for distribution of rocks of, see Part I, p. 8.
- Champlain clays, equivalents of, in Canada,
(1863) p. 915.
wood-cuts of fossils from, (1863) pp. 963-967.
- Champlain fault, general sketch of, in Canada,
(1863) p. 234.
- Champlain forge, improved German bloomery,
description of, (66-69) E. p. 273, F. p. 302.
- Champlain iron-ore, note on yield of, (63-66) p.
112.
- Champlain peat-bog, Que., statistics of output
for 1869-71, (71-72) p. 148.
- Champlain Point, Lake Nipigon, drift on shore
of, (66-69) E. p. 354, F. p. 391.
- Champlain Lake, *see* Lake Champlain.
- Champlain Seignior, Que., exposures of Trenton
in, (1863) p. 152.
peat deposits of, (1863) p. 782.
- Chance Harbour, N.B., rocks of Huronian age
on road north of, (70-71) pp. 95, 97.
Devonian rocks exposed at, (78-79) p. 11 D.
- CHANDLER, PROF., analysis of magnetite from
Hull, Que., (73-74) p. 211.

- Chandler road, N.B., Laurentian rocks on, (70-71) p. 49.
- Change in composition of fuels of the Laramie and Cretaceous near mountains, (82-84) p. 132 C.
- Change in elevation, facts pointing to, in Queen Charlotte Islands, (78-79) pp. 94-96 B.
- Changing of names by young Indians of the Haidas, (78-79) p. 131 B.
- Channel Is. Gardner Channel, B.C., mica-schists of, (74-75) p. 79.
- crystalline limestone of, (74-75) p. 79.
- Channels, ancient, buried, in gold districts of British Columbia, (76-77) p. 108.
- Chapel road, East Bay, N.S., Laurentian rocks on, (76-77) p. 416.
- Chapel Brook, Richmond Co., N.S., Carboniferous rocks of, coal reported, trial pit, (79-80) p. 70 F.
- Chapelon Lake, B.C., altered argillites of plateau west of, (77-78) p. 79 B.
- Chapleau mine, Tamo Lake, Portland Tp., Que., apatite deposit and workings, (82-84) p. 16 J.
- CHAPMAN, PROF. E. J., note on geological work of, previous to 1863, (1863) p. xii.
- result of assay of gold ore from Thunder Bay, (66-69) E. p. 356, F. p. 395.
- quoted on lead vein, Lead Hills, Thunder Bay, (66-69) E. p. 357, F. p. 397.
- assay of ore from Gillen mine, Marmora, (71-72) p. 137.
- work on Grand Manan Island in 1870, referred to, (70-71) p. 221.
- analyses of magnetite from Sweden, Peterborough and Bedford, Ont., (73-74) p. 211.
- analysis of specular ore from Haycock iron mine, Templeton, Que., (73-74) p. 226.
- analysis of coal from Harbour seam, International mine, N.S., (74-75) p. 221.
- analysis of coal from Edward's pit, Sydney mines area, N.S., Indian Cove seam, (74-75) p. 240.
- analysis of coal from Collins mine, N.S., (74-75) p. 241.
- analysis of gypsum from Port Bevis, B.C., (75-76) p. 417.
- analysis of magnetite from Texada I., B.C., (76-77) p. 475.
- Chapman Tp., Ont., crystalline limestone in, (76-77) p. 206.
- Character of coast, St. John and Albert Cos., N.B., (77-78) p. 2 D.
- of coal from Cowgitz, Q.C.Is., (78-79) p. 75 B.
- of Laurentian of Southern New Brunswick, summary of, (70-71) p. 32.
- of soil dependent on underlying rock, note on, (80-82) p. 2 D.
- Charcoal, cost of, Sweden and Norway, (66-69) E. p. 247, F. p. 273.
- amount used per ton of iron at Hull, Que., compared with Sweden and Norway, (66-69) E. p. 255, F. p. 282.
- Charcoal—*Cont.*
- amount used per ton of iron in American furnaces, (66-69) E. p. 256, F. p. 283.
- note on making of, in Norway and Sweden, weight of, cost, (66-69) E. pp. 245-247, F. pp. 272-273.
- smelting of iron at Londonderry, N.S., and St. Maurice, Que., compared, (73-74) p. 253.
- note on manufacture of, at St. Maurice forges, Que., (73-74) p. 247.
- from peat, note on manufacture of in Europe, (1863) p. 775.
- CHARDE, MR. PETER, first exploration for galena in Hastings, (63-66) p. 103.
- Charest River, Que., Trenton limestones exposed on, (1863) p. 154.
- Charionella Circe*, Bilings, wood-cuts of, (1863) p. 374.
- Charionella Doris*, Hall, wood-cut of, (1863) p. 374.
- Charionella rostrata*, Hall, wood-cuts of, (1863) p. 385.
- Charles Island, Hudson Strait, appearance of, (79-80) p. 22 C.
- Charleston, Leeds, Ont., section of Potsdam on Bluff Island, near, (1863) p. 92.
- Charleston Lake, Leeds Co., Ont., analysis of pyralloite from, (1863) p. 471.
- sand suitable for glass making, (1863) p. 801.
- the Potsdam sandstone of Bluff Island, section, (1863) pp. 91-92.
- Charleston Point, Anticosti, Que., fossils found in Hudson River Formation, (1863) p. 224.
- height of, (1863) p. 223.
- Charlesburg, Que., position of summit of Trenton near, (1863) p. 157.
- breadth of Utica Formation near, (1863) p. 201.
- Charlevoix Co., Que., for distribution of rocks of see *Part I*, p. 8.
- Charley Lake road, Canterbury Parish, N.B., assay of quartz, (79-80) p. 19 H.
- Charlo, N.B., exposures of red beds of Lower Carboniferous near, (79-80) p. 9 D.
- Charlo River, Bay of Chaleurs, width of trap area on, (80-82) p. 19 D.
- diabasic rocks of vicinity, (79-80) p. 41 D.
- Charlo Station, N.B., Silurian rocks north of, (79-80) p. 20 D.
- deposit of shell marl at, (79-80) p. 42 D.
- Charlotte Co., N.B., arrangement of Laurentian belts in, (70-71) p. 31.
- Huronian rocks of western part of, (70-71) pp. 82-83.
- details of St. John Group in, (70-71) p. 143.
- north-western part of, upper or pale argillite series of pre-Carboniferous, (70-71) pp. 197-198.
- localities of copper ores in, (70-71) pp. 225-226.
- summary of investigations on the Mascarene series, correlation of, (74-75) pp. 85-89.

- Charlotte Co., N.B.—*Cont.*
 report on, by Mr. G. F. Matthew, (76-77) pp. 321-350.
 geology of south-eastern part, (76-77) pp. 334-350.
 analysis of anthracite from, (76-77) p. 468.
 comparative table of section of Kingston Series, with that of Kings and St. John Cos., (77-78) p. 6 E.
 list of glacial striae in, (77-78) pp. 5-6 EE.
 geological report and resume of former reports on, by Bailey, Matthew and Ells, with map, (78-79) pp. 1-26 D.
 the Kingston group, extension westward, (78-79) p. 5 D.
 Silurian rocks of, general characters, Mascarene series included, (78-79) p. 10 D.
- Charlottenburgh Tp., Ont., Trenton Group exposed in, (1863) p. 172.
- Charlottetown Map-sheet, part of Prince and Queens Cos., P.E.I., issued in 1884.
- Charlotteville Tp., Ont., sulphur spring, native sulphur, (1863) p. 530.
 mineral spring at, analysis of water, (1863) pp. 536-537.
 limonite of, smelted at Normandale, (1863) p. 683.
 clay deposits of, referred to, (1863) p. 902.
- Charms used by medicine men, Haida Indians, *see* fig. 28 (78-79) p. 139 B.
- Charon River, Lake Superior, gneiss of main shore near, (76-77) p. 218.
- Chart, by Admiral Bayfield, of N.E. coast, Georgian Bay, (76-77) p. 195.
- Charts of Queen Charlotte Is. available in 1878, (78-79) p. 14 B.
- Chase Lake Brook, Cumberland, N.S., sandstone of Upper Coal Formation on, (73-74) pp. 167-168.
 red shales, exposures of followed by Lower Carboniferous sandstone, great fault probable, (73-74) p. 168.
- Chassegras Concession, Vaudreuil Seig., Que., quartz veins in, (63-66) p. 73.
- Chateau Bay, Strait of Belle Isle, basaltic islands, mica mined at, (82-84) p. 10 DD.
- Château Richer, Que., analysis of, andesite from, (1863) p. 478.
 hypersthene from, (1863) p. 468.
 ilmenite from, (1863) p. 501.
 labradorite from, (1863) p. 479.
 anorthositic of, referred to, (1863) p. 46.
 antichinal axis in Laurentian at, (1863) p. 96.
 note on anorthosite at, reference to analyses of felspars, (1863) p. 589.
 the Trenton Group exposed near, (1863) p. 159.
 note on triclinic felspar rocks and titaniferous ore, (1863) p. 34.
- Château Richer anticline, description of, the distribution of Trenton Group near anticline, (1863) p. 159.
- Chateaugay Co., Que., description and thickness of Potsdam rocks of Blueberry Plains, (1863) pp. 88-89.
 economic minerals of, (1883) p. 801.
- Chatham, Ont., mineral water from well, partial analysis of, (63-66) p. 277.
 well, record of, (63-66) p. 247.
- Chatham Gore, Argenteuil, Que., note on dolerites in Laurentian, (1863) p. 38.
 locality in, for graphite, (1863) p. 794.
- Chatham Sound, B.C., rocks of, (74-75) p. 80.
- Chatham Tp., Que., aventurine felspar from, analysis of, (1863) p. 475.
 width and thickness of Calciferous Formation in, (1863) p. 115.
 dolerite dykes in, (1863) p. 840.
 on porphyry of, as ornamental stone, (1863) p. 832.
 note on syenite of, as building stone, (1863) p. 811.
 to Franklin Co., N.Y., coloured section, (1863) Atlas.
- Chats Falls, Ottawa River, wood-cut showing fold in limestone with gneiss bands, (1863) p. 28.
- Chatte Cape, Que., copper ore found near, (1863) p. 733.
- Chatte River, Que., area of Sillery rocks referred to, (1863) p. 262.
 oolitic limestone and shales, with graptolites, thickness of, (1863) p. 264.
 lower black shales of Quebec Group on, (1863) p. 266.
 note on occurrence of Anticosti Group on, (1863) p. 309.
 section of Gaspé Series on, fossils in limestones of, (1863) pp. 410-412.
- Chaudière gold-fields, Que., report of finding mercury in gravels of, (1863) p. 518.
 summary of report on, (63-66) p. 7.
 report by A. Michel on, (63-66) pp. 49-77.
 inactivity of large mining companies, (63-66) p. 50.
 compared to Upper Tobique River, N.B., (66-69) E. p. 209, F. p. 232.
 iron sand in auriferous deposits, (66-69) E. p. 261, F. p. 288.
 opportunities for profitable hydraulic mining, (70-71) p. 273.
 quartz veins, examination by A. R. C. Selwyn, (70-71) p. 277.
- Chaudière gold mines, statistics for 1869-71, (71-72) p. 148.
- Chaudière gold, tarnished by coating of oxide of manganese, (63-66) p. 55.
- Chaudière Falls, on Ashuapmouchouan River, Que., granite veins and limestones, (70-71) p. 287.
 gneiss of, (70-71) p. 287.
- Chaudière River, Que., pholerite from rocks at, (1863) p. 495.
- Ottawa River, estimated fall, (1863) p. 9.

- Chaudière Lake, Ottawa River, Potsdam band, Calcareous at Chats Falls, (1863) p. 93.
fish remains found in nodules on, (1863) p. 917.
- Chaudière mine, St. Giles, Que., character of, vein, copper ores, (1863) p. 730.
- Chaudière River, Que., reference to Lauzon and Sillery rocks on, (1863) p. 241.
green sandstone exposed on, (1863) p. 255.
rocks of the Sipton and Leeds syncline, (1863) p. 256.
the Gaspé Series exposed on, fossils of Famine River, (1863) pp. 427-428.
arsenical ores in St. Francis, (1863) p. 505.
argentiferous galena at St. Francis Rapids, reference to, (1863) pp. 516-517.
note on quartz veins in slates, probable origin of gold, (1863) p. 437.
manganese ores exposed on, (1863) p. 752.
alluvial gold found below auriferous quartz veins, Devils Rapids, (63-66) p. 52.
description of workings for gold at Devils Rapids, (63-66) p. 54.
explorations needed, on left bank, (63-66) p. 61.
width of Lauzon band, (66-69) E. p. 134, F. p. 150.
width of Levis, Lauzon and Sillery on, (66-69) E. p. 135, F. p. 151.
reference to description of Upper Silurian, (66-69) E. p. 136, F. p. 151.
illustration showing hydraulic gold washing, (80-82) facing p. 4 A.
- Chaudière Tp., Beauce Co., Que., assay of quartz from lot 75, R. I., (78-79) p. 18 H.
- Chaudière Valley, Que., note on mode of occurrence and source of gold found, localities first found by Gen. Baddeley, (1863) pp. 518-520.
gold-bearing quartz of, (63-66) p. 8.
conclusions drawn by A. Michel on gold mining in, (63-66) p. 76.
- Chazy Formation in Canada, note on original occurrence of, at Chazy, N.Y., descriptions of exposures and illustrations of fossils, (1863) pp. 123-135.
estimated thickness of, (1863) p. 126.
the geographical distribution of, in Canada, (1863) pp. 126-135.
general description of rocks forming, (1863) p. 619.
note on, will be included in Cambro-Silurian, (78-79) p. 5.
on Allumette Island, (76-77) p. 277.
red limestones of, at Caughnawaga, (1863) p. 131.
sandstones in, at Chute à Blondeau, near Grenville, Que., (1863) p. 124.
at Grenville, Que., description of beds and list of fossils, (1863) p. 123.
on Manitoulin Island, (63-66) p. 170.
on the Mingan Islands, characters of and sections, (1863) pp. 134-135.
strata probably of this age, near Phillipsburg, Que., (1863) pp. 854-855.
- Chazy Formation in Canada—*Cont.*
trap beds intercalated in, at St. Lin, Que., (1863) p. 133.
illustrations of fossils of, wood-cuts, (1863) pp. 124-133.
leperditia bed in Huntley Tp., Ont., (1863) p. 128.
coprolitic fossils of, (76-77) p. 434.
mineral spring arising from, (1863) p. 561.
sandstones of, suitability for building purposes, (1863) p. 814.
- Chean-Howan River, B.C., columnar basalt, Horetzky's description, (75-76) p. 70.
- Chedabucto Bay, N.S., rocks of, (79-80) pp. 48-49 F.
- Ched-a-kus-ko, B.C., branch of Nechacco River, size of valley of, (76-77) p. 42.
- Cheirurus Apollo*, Billings, wood-cut of glabella, (1863) p. 239.
- Cheirurus Eryx*, Billings, wood-cut of glabella, (1863) p. 239.
- Cheirurus Icarus*, Billings, wood-cut of, (1863) p. 219.
- Cheirurus pleurexanthemus*, Green, wood-cut of, (1863) p. 188.
- Chelmo Crossing, Kootanie River, Wash., U.S., rocks of, (82-84) p. 25 B.
- Chemainus Bay, V.I., B.C., rocks at, (76-77) p. 182.
- Chemical contributions to Geology of Canada, by G. C. Hoffmann, (74-75) pp. 313-319, (75-76) pp. 419-432, (77-78) pp. 1-14 H., (78-79) pp. 1-25 H., (79-80) pp. 1-21 H., and (80-82) pp. 1-16 H.
- Chemical analyses of coals and lignites of N.W. T., by G. C. Hoffmann, (82-84) pp. 1-44 M.
analyses and assays by G. C. Hoffmann and F. D. Adams, (82-84) pp. 1-19 MM.
- Chemical investigations of Survey for 1875, (75-76) p. 5.
- Chemical examinations, report by B. J. Harrington, (76-77) p. 465.
made in laboratory during 1882, (80-82) pp. 26-27.
- Chemical geology, principles of, (1863) p. 570.
- Chemical manufactures, minerals used in, occurrences of in Canada, notes on, (1863) pp. 745-757.
- Chemical laboratory of Survey, work during 1873-74, by B. J. Harrington and G. C. Hoffmann, (73-74) pp. 6-8.
- Cheraung Group, character and fossils of in New York, (1863) p. 382.
not probably represented in Ont., (1863) p. 387.
- Chenaux, Ottawa River, crystalline limestone at, (1863) p. 31.
- Chenot's method of making malleable iron and steel, and direct heating method of making bloom iron, (66-69) E. pp. 288-289, F. pp. 318-319.

- Cheputneticook Lakes, St. Criox River, N.B., dams formed by ridges of till or boulder-clay, (82-84) p. 11 GG.
- and Palfrey Lake, St. Criox Valley, N.B., drift dammed, height above tide-level, relation of drift to lakes, (82-84) p. 15 GG.
- Cherry, note on limits of in Canada, (79-80) p. 54 C.
- Cherry Bluff, Kamloops Lake, B.C., analysis of magnetite, (77-78) p. 46 G.
- geological formation of, (77-78) p. 18 B.
- diorite mass, magnetic iron-ore, (77-78) p. 117 B.
- Cherry Bluff Creek, Kamloops Lake, white silt deposits overlying rounded gravels, (77-78) p. 142 B.
- Cherry Creek, B.C., assays of quartz and galena from, (77-78) p. 50 G.
- slaty rocks with contemporaneous diorite, (77-78) p. 104 B.
- glaciation of hills on southern trail to, (77-78) p. 138 B.
- gold in pre-glacial gravels of, section of boulder beds, etc., old river channel, (77-78) p. 141 B.
- mode of formation of valley, method of working for gold, yield and quality of gold, (77-78) pp. 158-160 B.
- diagram showing pre-glacial channel, (77-78) p. 159 B.
- silver at, (76-77) p. 132.
- silver-ore from, (76-77) p. 147.
- silver-ore at, character of deposit, richness of ore, assay of ore from North Fork, (77-78) p. 161 B.
- trails from Coldstream Valley, flat land about, (77-78) pp. 58-59 B.
- Cherry Creek trail, B.C., rocks exposed on, (77-78) p. 103 B.
- Cherry Creek Valley, B.C., character, timber of region, (77-78) pp. 59-60 B.
- Cherry Island, near Indian Island, Western Isle, N.B., conglomerates of, (70-71) p. 91.
- Cherry Valley, P.E.I., rocks exposed on road to, (82-84) p. 15 E.
- Chert or hornstone, note on occurrence of in Palæozoic of Ontario, (1863) p. 628.
- origin of, other silicious deposits, (1863) p. 574.
- fossils in, peculiar examples of, (1863) p. 629.
- occurrence of in rocks of Ontario and Quebec, note on, (1863) p. 500.
- of Corniferous Formation, general description of, (1863) p. 366.
- of Trenton Group, reference to paper on, fossils silicified, (1863) p. 629.
- for millstones in vicinity of Grenville, Que., noted, (1863) p. 808.
- olive-coloured, White Beaver Lake, Mont-real River, Ont., (75-76) p. 299.
- veins of in syenite, Grenville, Que., (1863) p. 41.
- Chert or hornstone—*Cont.*
- Huronian, in Thessalon River section, Ont., thickness, (1863) p. 57.
- lower group of Upper Copper-bearing rocks of Thunder Bay, (1863) p. 67.
- Chert rock, Gargantua Cape, Lake Superior, (76-77) p. 218.
- in Rutherford Township, Ont., (76-77) p. 209.
- Cherty schists, Cape Choyé, Lake Superior, (76-77) p. 219.
- Chertsey Tp., Que., anorthosite rocks of, referred to, (1863) p. 34.
- anorthosite rocks of, (1863) p. 44.
- anorthosite of, (1863) p. 589.
- Cherty beds at contact of Hudson River and Lévis rocks in Gaspé Peninsula, (80-82) p. 18 DD.
- Cheshee Creek, Tatlayoco Lake, B.C., porphyritic rocks observed, (75-76) p. 251.
- Ches-nun Mountain, B.C., general description, (76-77) p. 49.
- Chester Tp., Que., copper localities, (63-66) p. 315.
- the copper-ores of, localities of occurrence, (1863) p. 723.
- Chesterfield Inlet, note on rocks of coast opposite Marble Island, (82-84) p. 34 DD.
- Chestnut, note on range of in Canada, (79-80) p. 53 C.
- Cheticamp, N.S., copper pyrites in traps at, referred to, (80-82) p. 8.
- note on copper-ore deposits, (82-84) p. 95 H.
- sandstone and grit of Lower Carboniferous in vicinity of, (82-84) p. 38 H.
- scenery of vicinity of, note on, (82-84) p. 85 H.
- Cheticamp copper mine, N.S., traps and sandstones of Lower Carboniferous, (82-84) p. 39 H.
- Cheticamp Point, N.S., Coal Measures of, synclinal trough, (82-84) p. 76 H.
- Cheticamp River, Inverness, N.S., general description of valley, pre-Cambrian rocks of branches of, lead ore, (82-84) p. 22 H.
- general note on character of river, (82-84) p. 80-81 H.
- note on barrens of, (82-84) p. 78 H.
- Map-sheet issued 1884, scale 1 m. = 1 in.
- Cheverie mines, Hants Co., N.S., note on state of, (82-84) pp. 22-23 L.
- Chevrotière Seignory Quebec, distribution of Trenton in, (1863) p. 154.
- Chevrotière Tp., Que., limestone for building purposes, note on, (1863) p. 819.
- Chiastolite, occurrence of in Canada, (1863) p. 499.
- Chiastolite slates on Lake St. Francis, Que., (1863) pp. 430, 617.
- Chiatangs Bluff, Lake Nipigon, traps, argillites, felsites, etc., (66-69) E. p. 345, F. p. 382.

- Chibogomow Lake, on route to Mistassini, (70-71) p. 284.
schists of, (70-71) p. 291.
soil, vegetation of country south of, (70-71) p. 302.
length, outlet, timber, etc., (70-71) p. 302.
- Chicago, Ill., longitude of, determined by Capt. Ashe, (1863) p. 9 Atlas.
- Chico Group of California, probable age of Vancouver Cretaceous, (72-73) p. 75.
representation of in Vancouver Island, (73-74) pp. 265-266.
- Chicot, Que., height of Potsdam beds above Lake St. Peter, (1863) p. 109.
- Chicot River, Que., thickness of Potsdam sandstone diminished at, fault bringing Potsdam, and Trenton together, (1863) p. 95.
exposures of Trenton on, (1863) p. 150.
- Chicotte River, Anticosti, Que., exposures on, and in vicinity, (1863) p. 305.
- Chicoutimi, Que., anorthosite rocks suitable for building, noted, (1863) p. 812.
thickness of marine clays near, (1863) p. 923.
- Chicoutimi Co., Que., observations of Abbé Laflamme on geology of Saguenay region, (82-84) pp. 5-18 D.
- Chief Mountain Lake, Rocky Mountains, note on rocks of, (82-84) p. 29 B.
- Chief River, tributary of Mistassini River, Que., survey of west branch, rocks of, (71-72) p. 117.
- Chiefs Bay, Lake Nipigon, traps and limestones, (66-69) E. p. 346, F. p. 382.
limestones from, analyses of, (66-69) E. p. 362, F. p. 401.
- Chiefs Point, Lake Huron, note on rocks of having characters of Guelph Formation, (1863) p. 344.
- Chieftaincy among Haidas, powers of, succession and properties of, (78-79) pp. 119-120 B.
- Chignecto mine, Cumberland Co., N.S., depth of conglomerate below coal seams, (73-74) p. 165.
- Chignecto Passage, Bay of Fundy, tidal erosion in, (77-78) p. 19 EE.
- Chilacco River, B.C., width of stream and valley, (75-76) p. 33.
vegetation of country in vicinity of Telegraph trail, (75-76) p. 131.
gold on, (76-77) p. 142.
drift lignite on, (76-77) p. 146.
hills and ridges of gravel at bridge, (75-76) p. 34.
- Chilacco Valley, B.C., general character of, (76-77) p. 53.
- Chil-a-thlum-dinky Mountain, B.C., (76-77) p. 34.
- Chilanco Crossing to Puntzee Lake, B.C., description of country on location line of C.P.R., (75-76) p. 240.
- Chilanco River, B.C., description of country near, (75-76) p. 237.
- Chilco River, B.C., report on explorations by G. M. Dawson, general description, (75-76) pp. 234-240.
geological observations on, (75-76) pp. 246-265.
- Chilcotin Crossing, B.C., character of valley near Chizicut Lake, (75-76) p. 240.
- Chilcotin Plain, B.C., part of Central Plateau, volcanic rocks, (71-72) p. 57.
- Chilcotin River, B.C., gold on, (76-77) p. 142.
galena on, (76-77) p. 149.
character of valley, illustration showing, (75-76) p. 236.
bunch-grass plains north of, (75-76) p. 236.
notes on isolated areas of limestones of Cache Creek Group, (75-76) p. 247.
extent of basalt rocks westward, (75-74) p. 260.
travertine deposits of, (75-76) p. 264.
- Chilcotin Valley, B.C., from mouth of Chilco to mouth of Chilanco, general description of, (75-76) p. 237.
glacial striation, (75-76) p. 261.
- Chilli, porphyritic rocks of, referred to, (76-77) p. 90.
- Chilliwack River, B.C., analysis of sample of coal from, (73-74) p. 99.
coal of good quality, (76-77) p. 145.
- Chilliwack Mountain, B.C., height of, porphyrites of, (82-84) p. 12 B.
- Chilliwack beds and Fort Hope beds supposed to be similar, (82-84) p. 29 B.
- Chilliwack Lake, B.C., rocks of, (82-84) pp. 11-12 B.
- Chilliwack Valley, B.C., rocks of, (82-84) pp. 11-12 B.
thickness of slates in, (82-84) p. 32 B.
note on superficial deposits, (82-84) p. 33 B.
- Chimney Corner, N.S., summary of explorations of H. Fletcher on, harbour at, (80-82) p. 7.
workings for coal during 1883, (82-84) p. 14.
Coal Measures, description of, and Prof. Hind's section, (82-84) pp. 74-76 H.
- Chimney Corner Coal mines, N.S., section of strata at, by Prof. Hind, (82-84) p. 75 H.
note on operations at, and Hind's estimate of quantity of coal at, (82-84) pp. 89-90 H.
- Chimney Corner Point, Inverness, N.S., section of Coal Measures at and description of exposures north of, (82-84) p. 75 H.
- Chin Coulée, general description of, (82-84) p. 19 C.
notes on rocks of Belly River Series exposed in, fossils, (82-84) p. 53 C.
probable origin of, (82-84) p. 150 C.
- China Bar Bluff, Fraser River, B.C., granitoid rocks cut by felspathic veins, (71-72) p. 64.
- Chin-lack, Nechacco River, B.C., character of valley at, (76-77) p. 52.

- Chinook winds, explanation of phenomena by G. M. Dawson, (79-80) pp. 76-77 B. effects of, east of mountains, note on, (82-84) p. 13 C.
- Chin-oo-kun-dl Brook, Graham Island, Q.C.Is., Tertiary rocks of, (78-79) p. 85 B.
- Chipewyan, *see* Fort Chipewyan.
- Chipewyan Indians, notes on habits, appearance of, (75-76) p. 177.
- CHIPMAN, WILLIS, work by, as assistant to R. Bell, (76-77) p. 193.
- Chippawa, Ont., base of Onondaga Formation probably at, (1863) p. 347. spring in Onondaga Formation containing sulphuric acid, (1863) p. 352. character of mineral water of spring near, (1863) p. 540.
- Chippewa Falls, Lake Superior, melaphyre at, (63-66) p. 121.
- Chippewa or Harmony River, Ont., Laurentian rocks, (63-66) p. 117.
- Chisholm Brook, Inverness, N.S., pre-Cambrian rocks of, (79-80) p. 14 F.
- Chisholm Creek, B.C., gold workings on, (76-77) p. 138.
- Chisholm Pond, Pottery Brook, Pictou, N.S., Steward seam, (66-69) E. p. 47, F. p. 53. rocks in vicinity, black shales, (66-69) E. p. 48, F. p. 54.
- Chisholm Rapids, Trent River, Ont., Trenton limestones exposed at, (1863) p. 188.
- Chitz Island, Q.C.Is., latitude observation, (78-79) p. 235 B.
- Chizicut Lake, B.C., character of valley of, Chilcotin River, (75-76) p. 240.
- Chlorastrolite found in amygdaloid of Isle Royal, Lake Superior, analysis of, (1863) pp. 481-482.
- Chlorides, note on presence of in mineral waters of Canada, (1863) p. 554. of calcium and magnesium in salt brines of Ont., (74-75) p. 271.
- Chlorine in scapolite, reference to analyses by F. D. Adams, and paper by, (77-78) p. 32 G.
- Chlorite, general note on occurrence of, in rocks of Canada, (1863) pp. 488-489. occurrence with magnetite in Canada and Sweden, (73-74) p. 200. occurrence at Clifton, Kings Co., N.B., (70-71) p. 239. of apatite deposits, Ottawa Co., Que., with analysis, (77-78) p. 34 G. near Gaspereaux Station, N.B., (76-77) p. 329. in Madoc, Ont., in the Seymour ore beds, (63-66) p. 96. in Upper bed, Portage Lake, Mich., analysis of, (63-66) pp. 150-151. ferruginous, description of rocks at Portage Lake, Michigan, (63-66) pp. 150-152.
- Chlorite—*Cont.* with hematite, note on occurrence of, (73-74) p. 221.
- Chloritic slate or schist from Potton Tp., Que., analysis, (1863) p. 607.
- Chlorite spar, *see* analysis of chloritoid, (1863) p. 498.
- Chloritic slates, general note on presence of, in Palæozoic rocks, (1863) p. 606. of Lake Abatogomaw, (70-71) p. 291. in Quebec Group, near Shipton and St. Armand anticline, (1863) p. 245.
- Chloritoid, general note on occurrence of, analysis of specimen from Leeds Tp., Que., (1863) p. 498.
- Chaetetes*, sp., notes on specimens from Fossil Point, Peace River, (75-76) pp. 99-100.
- Chaetetes*, sp., notes on specimens from Stuarts Lake, B.C., (75-76) p. 97.
- Chonetes*, wood-cut of undetermined species, (1863) p. 368.
- Chonetes hemispherica*, Hall, wood-cuts of, (1863) p. 368.
- Chondrodite, note on occurrence of, in Laurentian limestone, at St. Jerome, Que., (1863) p. 465. occurrence in Laurentian, (63-66) p. 206.
- Choo-tan-li Lake, B.C., elevation, source of Tai-uk Brook, (76-77) p. 22.
- Christ Church Cathedral, Montreal, density and porosity of limestone used in construction of, (63-66) p. 284.
- Christie Bay, Skidigate Inlet, conglomerates of, (78-79) p. 65 B.
- Christies Lake, South Sherbrooke Tp., Ont., iron ore localities, (70-71) p. 313. iron ore at base of fifth limestone bed, (72-73) p. 161. band of crystalline limestone, (73-74) p. 106.
- Christies Lake mine, Ont., analysis of magnetic ore from, (73-74) p. 210. presence of pyrites with ore, (73-74) p. 203. *see* Meyer's mine, (72-73) p. 175.
- Christy Ridge, Charlotte Co., N.B., Devonian slates, (76-77) p. 333.
- Christmas Brook, N.S., Laurentian rocks of, (76-77) p. 411.
- Christmas road, N.S., syenitic rocks of, (76-77) p. 408.
- Christopher McLeods Brook, North-east Baddeck River, N.S., pre-Cambrian rocks, (82-84) p. 12 H.
- Chromate of potash, manufacture of outlined, could be carried on in Canada, (1863) p. 750.
- Chrome in various rocks in Ontario and Quebec, (1863) p. 504. in various rocks of Quebec Group, note on, (1863) p. 614.
- Chrome-garnet of apatite-bearing rocks of Ottawa Co., Que., (77-78) p. 26 G.

- Chromic iron-ore, note on deposits of, localities for, (1863) p. 504.
 formation of, general note on, (1862) p. 616.
 general characters, reference to localities in Canada, value of ore, descriptions of localities, (1863) pp. 748-750.
 value of, localities of occurrence in Canada, (1863) pp. 749-750.
 economic quantity of in Bolton and Ham Tps., Que., (63-66) p. 43.
 on East Nicolet Lake, Que., (1863) p. 253.
 from Ham Tp., Que., sample lot shipped to Glasgow and London, prices offered, (1863) p. 749.
 in serpentine at Lake Abitibi, (72-73) p. 128.
 of serpentine area on flank of Mount Albert, Gaspé, (1863) p. 266.
 from Mount Albert, note on occurrence of, (82-84) p. 20 F.
 occurrence of in serpentine of Potton Tp., Que., (1863) p. 248.
 note on composition and exposures of in Quebec, with analyses, (1863) p. 504.
- Chromiferous garnet from Orford Tp., Que., analysis, (1863) p. 497.
- Chromiferous mica, occurrence of in Eastern Townships, Que., (1863) p. 494.
- Chromium, compounds of used in chemical manufacture, localities in Canada, (1863) pp. 748-750.
 in serpentine from Pigeon Lake, Montreal River, Ont., (76-77) p. 483.
 occurrence of in Quebec Group, (63-66) p. 43.
 dolomite in Sillery Formation coloured by, (63-66) p. 40.
 in schists at Cape Cove, Digby, N.S., (70-71) p. 273.
 found in altered rocks of Quebec Group in Sutton, Brome, and Bolton Tps., Que., (1863) p. 247.
- Chrysotile, description and analysis of, localities in Quebec, (1863) p. 464.
 in crystalline limestones in the United States, (63-66) p. 205.
- Chrysotile, analysis of, (63-66) p. 205.
 general note on, (1863) p. 473.
 from Elliott's mine, Ross Tp., note on mining operations, (82-84) p. 14 L.
 occurrence of in crystalline limestones of Templeton, Que., (77-78) p. 5 G.
- CHURCH, Mr., reference to papers by, on silicification, (1863) p. 630.
- Church Brook, North Mountain, Inverness, N.S., contact of syenite and calc-schist, with diagram, (79-80) p. 21 F.
- Churchill, Hudson Bay, analysis of lazulite from, (78-79) p. 2 H.
 assay of quartz from near New Fort, (78-79) pp. 21-22 H.
 evidences of subsidence of Hudson Bay, (78-79) p. 21 C.
 view over barren lands north-west of, (78-79) facing p. 20 C.
- Churchill, Hudson Bay—*Cont.*
 illustration showing ruins of Fort Prince of Wales, (79-80) facing p. 30 C.
 list of coleoptera collected by J. R. Spencer at, (82-84) p. 62 DD.
 list of plants collected at, (82-84) pp. 38-47 DD.
see also Fort Churchill.
- Churchill Harbour, Hudson Bay, note on, (79-80) p. 30 C.
- Churchill quartzite, boulders of, found on Nelson River, (78-79) p. 23 C.
- Churchill River, from Frog Portage to Deer River, description of, (79-80) p. 13 C.
 near Little Churchill River to mouth, description of, (78-79) pp. 16-22 C.
 analysis of water from near Kettle Falls, (80-82) p. 6 H.
 fossil from three miles east of, (78-79) p. 51 C.
 at mouth of Little Churchill River, notes on fossils from, (78-79) p. 48 C.
 note on grayling and salmon of, (78-79) p. 7 C.
 effect of spring ice on banks of, (78-79) p. 20 C.
 list of birds collected near, (78-79) pp. 67-70 C.
 list of coleoptera collected by R. Bell, (78-79) pp. 65-66 C.
 list of plants collected by R. Bell, (78-79) pp. 53-60 C.
 list of lepidotera from, (78-79) pp. 63-64 C.
 list of glacial striae on, (78-79) p. 39 C.
 the limestone of the lower part of, (78-79) p. 18 C.
 character of mouth of, (79-80) p. 30 C.
 quartzite formation of, (78-79) p. 19 C.
 track-survey made by A. S. Cochrane, 1881, from Methy Portage to Frog Portage referred to, (80-82) p. 5.
 the timber of, note on, (78-79) p. 21 C.
 variation of compass at points on, (78-79) p. 71 C.
 view showing limestone cliffs and clay banks, (78-79) facing p. 18 C.
 and Nelson River, report on exploration of, by R. Bell, 1879, (78-79) pp. 1-44 C.
- Churchill's mine, Walton, Hants Co., N.S., description of deposit of manganese, (82-84) p. 21 L.
- Chute à Blondeau, below Grenville, Que., Chazy Formation, conglomerate and sandstone, (1863) pp. 123-124.
- Chutes Cove, Annapolis Co., N.S., prospects for copper mining, (82-84) p. 20 L.
 notes on zeolites in amygdaloid of, (82-84) pp. 24-25 L.
- Cincinnati anticline, continuation of, in Canada, (63-66) p. 257.
 crossing Ontario, reference to, (1863) p. 363.
- Cinderella Mountain, Nazco River, B.C., exposures of conglomerates of Jackass Mt. Group, (75-76) p. 255.

- Cinderella Mountain, B.C.—*Cont.*
character of basaltic rocks, (75-76) p. 261.
narrowing of valley, (75-76) p. 242.
- Cinnemousun Narrows, Shuswap Lake, B.C.,
position of, (77-78) p. 22 B.
assay of rusty quartz for gold and silver,
(77-78) p. 50 G.
the rocks near, (77-78) pp. 98-99 B.
pyritous veins, quartz veins, (77-78) p. 160B.
pyritous quartz veins at, little value, (77-78)
p. 160 B.
- Clam Cove, Deer Island, Charlotte Co., N.B.,
rocks of coast near, Kingston Series, (70-
71) p. 130.
- Clam Harbour River, Guysborough, N.S., De-
vonian rocks of, (79-80) pp. 47-48 F.
reported gold discovery, (79-80) p. 123 F.
- Clare River, outlet of Beaver Lake, Addington,
Ont., exposures of base of Trenton Group
on, (1863) p. 179.
- Clarence and Plantagenet outlier of Utica, refer-
red to, (1863) p. 219.
- Clarence Tp., Ont., distribution of Potsdam
sandstone in, (1863) p. 94.
distribution of the Trenton Group in, (1863)
p. 169.
peat deposits in, noted, (1863) p. 780.
- Clarenceville, Que., marine and fresh-water
shells found in sands of, (1863) p. 925.
- Clarendon basin of rocks, Clarendon Tp., Ont.,
(76-77) p. 253.
- Clarendon, Parish of, N.B., gravel ridge in, (77-
78) p. 13 EE.
- Clarendon Tp., Charlotte Co., N.B., granite
ridges, Oromocto Lake, (70-71) p. 189.
pre-Carboniferous rocks of dark argillite
series, (70-71) p. 192.
- Clarendon Tp., Ont., reddish gneisses of Gull
Lake, (72-73) p. 148.
light colored gneiss suitable for building
purposes, (1863) p. 812.
Hastings Series, extending through, (70-71)
p. 311.
crystalline limestones in, (1863) p. 31.
limestones of, (76-77) pp. 287, 291.
mica-schists in, (74-75) p. 129.
deposits of marl noted, (1863) p. 765.
pyrites found on lot 2, R. VII., (1863) p. 513.
- Clark seam, Grand Lake road, N.S., thickness
of coal and extent of, (74-75) p. 190.
- Clarke Tp., Ont., note on boulders in, (1863) p.
895.
- Clark Point, Lake Huron, clay cliff at, continua-
tion of, (1863) p. 901.
Passamaquoddy Bay, N.B., Mascarene
eries at, (70-71) p. 146.
- Clark's location, North Burgess, Ont., apatite
associated with hematite, four bands of
apatite, (71-72) p. 127.
- Clarks Mountain, near Fredericton, N.B., eleva-
tion and rocks of, (66-69) E. p. 182, F. p.
201.
- Classification of iron ores, by B. J. Harrington,
(73-74) p. 193.
- Classification of superficial deposits in New
Brunswick, (77-78) p. 1 EE.
- Clay, analysis of, note on method adopted by T.
S. Hunt, (1863) p. 637.
from London, Ont., analysis of, (1863) p.
641.
from Niagara Tp., Ont., analysis of, (1863)
p. 641.
from Rivière à la Graise, Rigaud, Que.,
analysis of, (1863) p. 641.
for bricks and lower grades of earthenware,
localities in Ontario and Quebec., (1863)
pp. 801-802.
for brick making in Ontario, white and
red bricks, note on, (1863, p. 898.
for brick making in Southern Alberta, note
on, (82-84) p. 138 C.
suitable for fire bricks and pottery in Ligi-
nite Tertiary of 49th parallel, N.W.T.,
(79-80) p. 49 A.
for brick making in Cape Breton, N.S., note
on, (82-84) p. 98 H.
deposits of, on the Bonnechère River, Ont.,
(76-77) p. 257.
deposit in valley of Little Churchill River,
(78-79) p. 15 C.
of St. Peters, N.S., for brick making, (79-
80) p. 125 F.
deposits in valley of Nelson River, thickness,
marine shells, (77-78) p. 11 CC.
deposits of, on lower part of Nelson, Steel
and Hayes rivers, (77-78) p. 24 CC.
Champlain, equivalents of, in Canada,
(1863) p. 915.
cliffs of, on St. Lawrence River, Que., near
Portneuf River, (66-69) E. p. 310, F. p. 342.
fire or refractory, found near Dundas, Ont.,
and Gaspé, Que., (1863) p. 802.
indurated, from Souris City, Man., experi-
ments with, in brick making, (80-82) pp.
2-3 H.
Leda, of eastern Canada, distribution of,
(1863) pp. 915-930.
Saugeen and Erie, description and detailed
distribution of, (1863) pp. 897-907.
- Clay iron-stone, characters and age of, (73-74)
p. 239.
of Lignite Tertiary, mode of occurrence and
composition, (79-80) p. 48 A.
of Tertiary age in N.W.T., with analyses,
(73-74) pp. 240-242.
percentage of iron in eight various samples,
(73-74) p. 242.
in North West Territory, note by G. M.
Dawson on general mode of occurrence,
(80-82) pp. 9-10 H.
note on supply of in Southern Alberta, (82-
84) p. 138 C.
in banks of Athabasca River, (82-84) pp. 8,
30 CC.
from Belly River near Coal Banks and
Little Bow River. analyses, (80-82) p.
11 H.
from Belly River, analyses of from Coal
Banks and vicinity, (82-84) pp. 168-169 C.

Clay iron-stone—*Cont.*

- Bow River, Alta., analyses of, (80-82) p. 10 H, and (82-84) p. 168 C.
 occurrence of, in Cape Breton, N.S., (74-75) p. 262.
 from Dirt Hills, N.W.T., analysis of (73-74) p. 241.
 assay of specimens from Edmonton, Alta., (73-74) p. 64.
 from Great Valley, N.W.T., International boundary, analysis of; (79-80) p. 48 A.
 from Kananaskis River, Alta., analysis of, (80-82) p. 10 H, and (82-84) p. 168 C.
 from Mill Creek, Alta., analysis of, (80-82) p. 12 H.
 occurrences in Nova Scotia, (73-74) p. 239.
 from Mill Creek, Old Man River, Alta., analysis of, (82-84) p. 169 C.
 on Peace River, note on occurrence, (75-76) p. 82.
 of Pictou coal-fields, note on, (66-69) E. p. 442, F. p. 494.
 from Qu'Appelle River, N.W.T., composition of, (73-74) p. 71.
 note on, from Queen Charlotte Islands, (73-74) p. 240.
 note on occurrence in New Brunswick on Salmon River, (73-74) p. 240.
 in shales on North Saskatchewan River, (73-74) p. 49.
 from Smoky River, N.W.T., analysis of, (79-80) p. 16 H.
 from Souris Valley, N.W.T., analysis of, (79-80) p. 48 A.
 note on occurrence in Cretaceous of Vancouver Island, (73-74) p. 240.
 from White Mud River, south of Fort Pelly, N.W.T., assay of, (75-76) p. 431.
- Clay plain, Lac des Quinze and Lake Abitibi, Ont., (72-73) p. 133.
- Clay-slates, of Gaspé Series running north from Lake Memphremagog, Que., (1863) p. 436.
 overlying auriferous sandstone series, N.S., (70-71) p. 262.
- Clay's process of manufacturing malleable iron, (66-69) E. p. 289, F. p. 320.
- Clay-stone in Calciferous near Carillon, Que., (1863) pp. 112-113.
- Clay and sand terraces on Pic River, Ont., (70-71) pp. 327-328.
- Clear Lake, Peterborough Co., Ont., the Trenton escarpment near, (1863) p. 189.
- Clear Lake, Hastings Co., Ont., slates of divisions C 2 and C 3 in vicinity of, (66-69) E. p. 156, F. p. 173.
- Clear Water Bay, Lake of the Woods, description of gold mines and claims on, (82-84) pp. 18-19 K.
- Clear Water Lake, north of Georgian Bay, Ont., limestone band on, (76-77) p. 203.
- Clear Water Point, Gulf of St. Lawrence, Calciferous Formation not exposed under Chazy, (1863) p. 119.
 Calciferous near, fossils of, (1863) p. 122.

Clear Water Point—*Cont.*

- section of the Chazy Formation, (1863) p. 134.
- Clear Water River and Lake, head-waters of St. Maurice River, Que., rocks of, (70-71) p. 290.
 description of topography of, (70-71) p. 301.
- Clearwater Lake, Mink River, Gods Lake, Keewatin, peat deposit at, (78-79) p. 33 C.
- Clearwater River, North Thompson River, B.C., crossing of, (71-72) p. 27.
 to Mad River, North Thompson, Journal of A. R. C. Selwyn, (71-72) p. 27.
- Clearwater River, branch of Athabasca River, botanical notes by Prof. Macoun, (75-76) pp. 172-174.
 description of country on, (79-80) p. 94 B.
 formation of *battures*, (75-76) p. 174.
 origin of valley, height of banks, drift material, (82-84) p. 30 CC.
 pre-glacial channel, (82-84) p. 26 CC.
 notes on fossils collected by J. Macoun from Devonian limestones, (75-76) pp. 105-106.
 rapids in, rocks at Five Portages, (75-76) p. 94.
 rocks of, (82-84) pp. 25-26 CC.
 sandstones, tar-sands, sulphur springs, (75-76) p. 94.
 salt springs, sandstones for grindstones, botanical notes, (75-76) p. 172.
 analysis of salt evaporated from spring on, (82-84) p. 18 MM.
 red sandstone reported twelve miles above Methy Portage, (82-84) p. 27 CC.
- Clearwater River, Peace River, N.W.T., *Monotis* beds at mouth of, (75-76) p. 75.
 carbonaceous limestones opposite mouth of, (75-76) p. 80.
 illustration showing valley of, (75-76) facing p. 80.
- Clearwater River, N.W.T., branch of North Saskatchewan, crossing of near Rocky Mountain House, (73-74) p. 40.
 Hector's description, timber, etc., (73-74) p. 47.
- Cleat in coal seams of N.S., note on, (74-75) p. 203.
- Cleidophorus*, wood-cuts of several small species (1863) p. 216.
- Clementsport, N.S., note on iron mine and blast furnace at, (73-74) p. 255.
- Clementsport blast furnace, N.S., ore used, flux and fuel, charge of furnace, (73-74) p. 255.
- Cleveland Tp., Que., outcrop of lower black slates in, (1863) p. 240.
 roofing slates, serpentines, (1863) p. 253.
 note on orthoclase in argillites at, (1863) p. 606.
 notes on copper ore localities and mines in, (1863) p. 723.
 slate band in, note on, (1863) p. 830.
 copper localities in, (63-66) p. 312.
 poor manganese ore from, note on, (76-77) p. 476.

- Cliff mine, Lake Superior, analysis of greenstone from, (1863) p. 605.
- Cliff Point, Salmon Arm, Shuswap Lake, B.C., outcrop of division B, (Nisconlith Series), (77-78) p. 96 B.
- Cliffs of sand and clay, Denman I., B.C., (72-73) p. 46.
- Clifton, Bay of Chaleurs, N.B., exposures of Middle Carboniferous, grindstone quarries, coal seams, (79-80) p. 6 D.
note on coal at grindstone quarries, (79-80) p. 46 D.
stratigraphical position of coal seams at, (80-82) p. 6 D.
- Clifton, Kings Co., N.B., masses of chlorite and epidote on Kennebecasis River, (70-71) p. 239.
rocks of Kingston Group, (70-71) p. 123.
- Clifton, N.S., hematite in Carboniferous rocks, (73-74) p. 218.
göthite with hematite and limonite near, (73-74) p. 221.
- Climacitichnites Wilsoni*. Logan, wood-cut showing tracks of, from Perth, Ont., reference to description of, (1863) pp. 107-108.
- Climate, of Southern Alberta, note on, (82-84) pp. 12-13 C.
of Central British Columbia, general note, mean temperatures, (77-78) p. 6 B.
of west coast of British Columbia, northern part, general observations, (79-80) pp. 5-9 B.
of Northern Cape Breton, N.S., note on, (82-84) pp. 86-87 H.
of Comox district, B.C., fall of snow, (71-72) p. 95.
at Battle River, north of Dunvegan, N.W.T., (79-80) p. 61 B.
and timber of East Main Coast, with table of temperatures observed, (77-78) pp. 25-26 C.
of James Bay basin, note on, (75-76) p. 341.
of Lesser Slave Lake district, (79-80) p. 91 B.
of Manitoulin Islands, (63-66) p. 168.
of Magdalen Islands, note on, (79-80) p. 11 G.
of Nelson River valley, rather mild from plants found there, (79-80) p. 69 C.
of valley of Nelson River and boat-route, (77-78) pp. 30-31 CC.
of Nelson River basin, note on, (78-79) p. 3.
of Nicola Valley, B.C., (77-78) p. 33 B.
of Nipigon region, Ont., short note on, (66-69) E. p. 356, F. p. 394.
of Pacific Coast, causes producing mildness in, (75-76) pp. 116-117.
of Peace River country, (79-80) pp. 66-79 B. and agriculture of Peace River District, (79-80) p. 69 B.
at Fort St. John and Hudsons Hope, (79-80) p. 70 B.
of Pine River Pass, note on, evidence of, (79-80) p. 44 B.
- Climate—*Cont.*
note on change in, (79-80) p. 40 B.
of Peace River Pass and interior of British Columbia, (75-76) pp. 83-85.
of Queen Charlotte Is., note on, (78-79) p. 42 B.
and vegetation of Skeena River, B.C., (79-80) pp. 17-20 B.
of region near Stuart Lake, B.C., (79-80) p. 29 B.
of country north of Lake Superior, Pic River, etc., (70-71) p. 350.
of Vancouver I., note on botanical evidence, (75-76) p. 112.
- Clinton, B.C., breadth of Cache Creek Series, fossils, (71-72) p. 61.
botanical notes on vicinity of, (75-76) pp. 124-125.
moraines of local glaciation near, (77-78) p. 150 B.
old wagon road from Lillooet, (77-78) p. 10 B.
rocks of Cache Creek Group exposed near, (71-72) pp. 60-61.
rocks on wagon road from Mundorf's, (77-78) p. 94 B.
Tertiary volcanics of country near, (75-76) p. 70.
volcanic rocks of, (71-72) p. 58.
- Clinton, Guysborough, N.S., Devonian rocks on Guysborough road, (79-80) p. 45 F.
- Clinton, Ont., salt discovered at, (76-77) p. 221.
evaporation in pans, economy of, (66-69) E. p. 225, F. p. 248.
manufacture of salt at, (66-69) E. pp. 225-227, F. pp. 248-251.
well bored through 16 feet of rock salt, (66-69) E. p. 212, F. p. 234.
- Clinton-Lillooet road, B.C., rocks to near Kelly's Lake, (77-78) pp. 94-95 B.
- Clinton well, Ont., analysis of brine from, (66-69) E. p. 222, F. p. 245.
- Clinton Formation, described, with Medina of Western Ontario, (1863) pp. 310-321.
in New York, on Genesee River, (1863) p. 311.
reference to beds containing hematite, (1863) p. 510.
on Manitoulin, Drummond and St. Joseph Islands, (66-69) E. p. 113, F. p. 127.
iron ore band represented by red marls on Manitoulin and Drummond Islands, (66-69) E. p. 113, F. p. 128.
at Owen Sound, Ont., iron ore bed in, (1863) p. 318.
- Clinton Tp., Ont., note on galena in fissures in Niagara at Beamsville, Ont., (1863) p. 324.
references to galena, (1863) p. 517.
native sulphur, note on occurrences of in, (1863) p. 530.
- Clintonite, occurs with spinel in Daillebout, Que., (1863) p. 486; and (63-66) p. 211.
- Clio Bay, Kitimat Inlet, B.C., rocks of, (74-75) p. 80

- Clisbaco River, branch of Nazco River, B.C., character of valley, (75-76) p. 242.
- Cloak Bay, North Island, Q.C.Is., rocks of, (78-79) p. 83 B.
description of, (78-79) p. 40 B.
account of Dixon's first visit to, (78-79) p. 155 B.
- Cloake's farm, Saanich, B.C., coal on, (76-77) p. 188.
- Cloche Island and Peninsula, *see* Lacloche.
- Clones, N.B., surface coal seam proved by drill, (78-79) p. 20 D.
- Clones coal seams, Nerepis Valley, N.B., description of, facility for shipment from, (72-73) p. 217.
thickness and probable yield of, (72-73) p. 224.
- Clones District, N.B., note on boring operations for coal, (74-75) p. 92.
- Clones Settlement (Lower), N.B., anticlinal fold in Lower Carboniferous fossiliferous limestone at, (72-73) pp. 187-188.
list of fossil plants from, (72-73) p. 207.
- Cloquit River, Vancouver Island, B.C., limestone extending from Knockan Hill to near, (71-72) p. 93
- Cloud River, Thunder Bay District, Ont., referred to, (66-69) E. p. 323, F. p. 356.
silver bearing veins discovered on, (72-73) p. 109.
- Clouded limestone of Marble Lake, Barrie Tp., Ont., (72-73) p. 155.
- Cloverdale Settlement, N.B., in valley, probably once a lake basin, (82-84) p. 19 G.G.
- Cluscius Lakes, B.C., general description of, (76-77) p. 24.
rocks near, (76-77) p. 68.
- Cluscius Stream, B.C., general description of, (76-77) p. 24.
- Cluscius Lake trail, B.C., crossing of Nazco River, view of hills west from, (75-76) p. 243.
- Clyburn Brook, North Bay, Ingonish, N.S., granite hill north of, slates and schists near, (82-84) p. 16 H.
crystalline limestone blocks found on, (82-84) p. 37 H.
wide valley, drift deposits in, (82-84) p. 76 H.
- Clyde Lake, Levant Tp., Ont., mica-schist group, (74-45) p. 126.
- Clyde or Ontario mine, N.S., quality of coal, works and machinery, (72-73) p. 274.
position of coal seams, (72-73) p. 273.
statistics, force of men, etc., (72-73) p. 290.
- Clyde River, Lanark, Ont., granular diorites, (74-75) p. 136.
- Coac, St. John River, N.B., contact of sandstones with granites, (82-84) p. 20 G.
- Coac Creek, St. John River, same in valley of, (82-84) p. 23 G.G.
- Coady Brook, Inverness Co., N.S., pre-Cambrian schists, etc., of, (82-84) pp. 10-23 H.
- Coady Settlement, Inverness Co., N.S., Lower Carboniferous conglomerate on road to, (82-84) pp. 40-41 H.
- Coal and lignite, analyses of, (76-77) pp. 465-473.
and peat, comparison of cost and efficiency of, (1863) p. 775.
diagram illustrating relative composition of, (80-82) facing p. 21 B.
evaporative power, method of calculation of, value of theoretical results, (66-69) E. pp. 367-368, F. p. 407.
metamorphosed to graphite, example of, (1863) p. 529.
metamorphosed to graphite in rocks of Carboniferous, (1863) p. 598.
summary of work in laboratory on, (72-73) p. 6.
- Coal, from British Columbia, analyses of, table, (76-77) face p. 470.
for other analyses see Part II, p. 20.
and lignite in British Columbia, general note on, (76-77) pp. 119-129.
and lignite of Southern British Columbia, note on occurrences, (77-78) p. 160 B.
localities of occurrence in British Columbia, (76-77) pp. 144-146.
Palaeozoic, possible discovery of in, (76-77) p. 119.
statistics for British Columbia, 1869-71, (71-72) p. 152.
Tertiary age of, interior of British Columbia, (76-77) p. 127.
- Coal and coal-bearing rocks of British Columbia, localities:—
Albarni Canal, B.C., coal-bearing series in, (72-73) p. 55.
Albarni, B.C., coal at, note on, (76-77) p. 124.
Burrard Inlet, B.C., coal-bearing rocks at, (76-77) pp. 188-190.
Coldwater River, B.C., note on, coal of, (76-77) p. 128.
Coldwater River, B.C., sections of coal seams, (77-78) pp. 123-125 B.
Comox, B.C., variable thickness of coal seams, (72-73) p. 44.
Comox coal-basin, B.C., table of thickness of divisions of coal-bearing rocks, (72-73) p. 51.
coal seams discovered in, not previously recorded, (73-74) p. 98.
- Cowgitz, Q.C.Is., coal measures at Hoopers Creek, section and tunnel, (72-73) p. 58.
coal seams, anthracite, between Hoopers Creek and Robinsons Creek, (78-79) p. 74 B.
note on composition of coal from, (78-79) p. 76 B.
economic importance of coal deposit, (78-79) p. 77 B.
- Cowitchen, B.C., coal at Deep Cove, (76-77) p. 187.

Coal and coal-bearing rocks of B. C.—*Cont.*

- Domville Island, B.C., coal on, (76-77) p. 188.
- Lower Fraser River, B.C., locality for, (76-77) p. 126.
- Nanaimo, B.C., section of coal measures, (71-72) pp. 83-84.
coal seams not previously recorded in district, (73-74) pp. 98-99.
note on coal at, (76-77) p. 121.
coal seams at, (76-77) p. 176.
shipments from, 1876, (76-77) p. 179.
extent of coal measures south-east of, (76-77) p. 182.
- Nanaimo and Comox, B.C., equivalent age of coal-bearing series from, table, (77-78) p. 173 B.
- Nanaimo River, B.C., section showing coal seam on, (76-77) p. 181.
- Newcastle Island, B.C., coal on, (76-77) p. 176.
- Nicola, B.C., extent of coal-bearing rocks near, (76-77) p. 128.
coal rocks of, relation to volcanic rocks, (76-77) p. 128.
- North Thompson, B.C., note on coal of, (76-77) p. 128.
- Puget Sound, coal-bearing rocks of, (76-77) p. 125.
- Quatsino Sound, coal-bearing series of, equivalent age given in table, (71-78) p. 173 B.
- Queen Charlotte Islands, report by Jas. Richardson on coal-bearing rocks of, (72-73) pp. 56-63.
equivalent age of coal-bearing series of, (77-78) p. 173 B.
- Quesnel, B.C., coal-bearing rocks of, (71-72) pp. 58-59.
- Squash, B.C., coal from, referred to, (76-77) p. 467.
- Sable River to North-west Bay, B.C., probable occurrence of coal noted, (76-77) p. 167.
- Skeena River, impure coal on, near Kitse-guecla, (79-80) p. 103 B.
- Skeena River and Babine Portage, note on coal-bearing rocks of, (79-80) pp. 104-106 B.
- Tzes-a-tza-kwa River, Babine Lake, impure coal from, (79-80) p. 104 B.
- Vancouver Island, coal measure troughs of east side of, (71-72) p. 88.
coal-bearing rocks of, report by Jas. Richardson, (72-73) pp. 34-56.
coal-bearing rocks of, divisions of, (72-73) p. 35.
coal measures of, note on, (76-77) p. 121.
coal, statistics of labour and output, (76-77) p. 122.
character of coal seams in, (76-77) p. 123.
quality of coal of, (76-77) p. 123.
average amount of ash in coal of, (76-77) p. 471.

Coal in New Brunswick:—

- Bay of Chaleurs, exposures on coast of, (1863) p. 452.
- borings made and results, (78-79) p. 20 D.
- Clifton, N.B., Bay of Chaleurs, coal seams, (79-80) p. 6 D.
- Clones, Nerepis Valley, N.B., description of seams, (72-73) pp. 217-218.
- Coal Branch, Richibucto River, N.B., and vicinity, note on coal seams, (80-82) pp. 4-5 D.
- Coal Creek, Grand Lake, N.B., seams worked, (72-73) p. 208.
- Dernier estate, Upper Salmon River, Albert Co., N.B., analysis of bituminous coal, (79-80) p. 8 H.
- Dunsinane, N.B., coal discovered at, (71-72) p. 144.
- Harvey Settlement, York Co., N.B., probable horizon of coal, (66-69) E. p. 181, F. p. 200.
- Kent Co., N.B., coals of, probably continuations of one seam, (80-82) p. 5 D.
- Lepreau Harbour, N.B., characters of coal seam, (78-79) p. 13 D.
- lower seams improbable, (72-73) p. 223.
- Middle Carboniferous of Eastern New Brunswick, coal in, (80-82) p. 2 D.
- Miramichi, N.B., coal seams of, note on, (79-80) p. 7 D.
- Newcastle River, N.B., coal outcrops on, openings made on, (72-73) pp. 200-203.
- Northern New Brunswick, note on deposits at Clifton, Shippegan Islands and Miramichi River, (79-80) p. 46 D.
- Oromocto River, N.B., north-west branch, coal seams on, (72-73) p. 220.
- probable yield from surface seam, (72-73) p. 223.
- probable area underlain by seams, (72-73) p. 224.
- quality and cost of production of coal in New Brunswick, (72-73) pp. 226-227.
- Shippegan Island, N.B., coal reported at, (79-80) p. 6 D.
- statistics for New Brunswick 1869-71, (71-72) p. 151.
- stratigraphical position of coal seams of eastern part, (80-82) p. 6 D.
- Coal of North-west Territories:—
not on first prairie steppe, (74-75) p. 3.
age assigned by Hector to coal-bearing rocks of plains, age of coal rocks of Pacific coast, (73-74) p. 51.
equivalency of coal seams with seams of other districts, (80-82) p. 20 B.
general remarks on coals and lignites of, by G. M. Dawson, (80-82) pp. 20-23 B.
results of investigation by G. C. Hoffmann, of coals and lignites, (82-84) pp. 1-44 M. & methods employed in examination of coals and lignites, (82-84) pp. 2-5 M.
physical and chemical character of coals, (82-84) pp. 7-10 M.
Pierre shales, coal seams of base of, estimate of quantity available, (82-84) pp. 127-128 C.

Coal in Alberta, general notes on:—

estimated quantity per square mile for different seams, (80-82) p. 22 B.
position of coal seams, extent of outcrop traced, (80-82) p. 13.

Bow and Belly River District, index map of outcrops in, accompanying, (80-82) B.
notes on coal seams of, (80-82) pp. 8-20 B.

of region in vicinity of Bow and Belly rivers, N.W.T., quantity, quality of fuels, localities, etc., (82-84) pp. 127-138 C.
composition compared as to geographical and geological position, (82-84) pp. 134-135 C.

coal-bearing zone at base of Laramie, (80-82) p. 6 B.

list of outcrops in Southern Alberta, (82-84) pp. 130-131 C.

Southern Alberta, estimates of quantity of coal in coal seams, (82-84) pp. 127-129 C.

Southern Alberta, note on change in composition, near mountains, (82-84) pp. 132-133 C.

Coal of North-west Territories, localities:—

Belly River, and Bow River, Alta., coal from Coal Banks seam, analyses of, (80-82) p. 14 B.

Belly River, mode of occurrence on, (82-84) pp. 70-71 C.

outcrops on, from Coal Banks to Big Island, description of, (82-84) pp. 71-73 C.

comparative sections of coal seams, diagram showing, (82-84) to face p. 72 C.

coal seams of Belly River Series on, note on, workable seam at Driftwood Bend, (82-84) pp. 74-75 C.

Blackfoot Crossing, Bow River, borings and assays, (82-84) p. 87 C.

Bow River, continuation of Coal Banks seam, section, (80-82) pp. 13-14 B.

at Horseshoe Bend, Alta., thickness and analysis of coal seams, (80-82) p. 15 B.

coal seams on, near Coal Creek and Jumping Pound River, (82-84) pp. 80-81 C.

coaly zone in Belly River Series, (82-84) p. 92 C.

Brazeau River, N.W.T., coal reported on, (75-76) p. 288.

Coal Banks, Belly River, sections of seams measured, (80-82) pp. 12-13 B.

Coal Brook, Pine River, N.W.T., coal seams of, (79-80) p. 118 B.

Coal Creek, Bow River, Alta., note on coal seams, (80-82) pp. 19-20 B.

Coal Creek, Bow River, analyses and calorific power of coal from, (82-84) pp. 32-33 M.

Crow Nest Pass, note on coal seams in, (82-84) p. 110 C.

Crowfoot Crossing, Bow River, analysis of coal from, (80-82) p. 17 B.

Elk River, Alta., coal seams of, referred to, (82-84) p. 111 C.

Coal of N. W. T.—*Cont.*

Foot Hills, general note on attitude of beds, (82-84) p. 129 C.

Grassy Island, Bow River, section of coal seams in Pierre at, (82-84) p. 90 C.

Horseshoe Bend, Bow River, base of Laramie, coal seam at, (82-84) pp. 88-89 C.

Indian Farm, south of Pincher Creek, analysis of coal from, (80-82) p. 18 B.

Little Bow River, horizon of coal seams, (82-84) p. 80 C.

Medicine Hat, note on seam in section west of, (80-82) p. 9 B.

Medicine Hat, note on preliminary workings of seams, (82-84) pp. 77-78 C.

Middle Fork, Old Man River, Alta., sections of coal seams on, (80-82) pp. 18-19 B.

Milk River, coal seams of base of Pierre, (82-84) p. 39 C.

Milk River Ridge, note on coal seams of, (80-82) p. 11 B.

Mill Creek, Alta., sections of coal seams of, (80-82) p. 19 B.

sections of coal seams of, (82-84) pp. 98-99 C.

analyses and calorific power of coal from, (82-84) p. 40 M.

Mountain of Rocks, Peace River, analysis of coal from, (79-80) p. 119 B.

North Fork, Old Man River, thickness of coal seam on, (80-82) p. 19 B.

the beds containing coal, (82-84) p. 103 C.

section of coal seams of North-west Branch, (82-84) p. 110 C.

North Pembina River, at crossing of old C.P.R. line, analysis of coal, (79-80) p. 135 B.

North Saskatchewan River, average of analyses of coals from, (73-74) p. 7.

description and illustration showing coal seam on, (73-74) p. 49.

Rocky Mt. House and Big seam, analyses of coal from, (73-74) p. 63.

specimen of coal from Big seam for Philadelphia exhibition, (75-76) p. 288.

analysis of coal from Big seam, (79-80) p. 135 B.

Old Man River, coal seams of South Branch, (82-84) pp. 109-110 C.

Old Man River, North and Middle Forks, analyses and calorific power of coal, (82-84) pp. 33-36 M.

Peace River, cañon of, at Mt. of Rocks, analysis of coal from, (75-76) pp. 6, 63.

Peace River, coal-bearing character of the rocks of, (79-80) pp. 134-136 B.

Pincher Creek, coal seams on, (82-84) p. 98 C.

Pine River, Peace River, coal seams on east branch of, (75-76) p. 53.

analysis and calorific power of coal from, (82-84) p. 39 M.

Pine River Cañon, coal seams of lower sandstones of, (79-80) p. 117 B.

Red Deer River, coal seam in Laramie rocks of, (82-84) pp. 94-95 C.

Coal of N. W. T.—*Cont.*

- Rivière Brulé and Rat River, near Dunvegan, coal seams of, (79-80) p. 118 B.
 Rocky Mt. House, N.W.T., character of lignite, age of beds, (73-74) p. 48.
 Rocky Mountains, discovery of coal in, announced, (82-84) p. 4.
 St. Mary River, south of Coal Banks, coal seams on, (80-82) p. 10 B.
 South Saskatchewan River, above Medicine Hat, sections of coal seams of, (82-84) p. 77 C.
 above Swift Current, horizon of coal seams of, (80-82) pp. 14-15.
 Table Mountain and Cañon of Peace River, coal and lignite occurrence at, (75-76) p. 82.
 Upper Belly River, analyses and calorific power of coal from, (82-84) pp. 36-37 M.
 Victoria, N.W.T., coal seam in stream opposite, (75-76) p. 289.

Coal in Nova Scotia with notes on localities.

See also Coal in Cape Breton:—

- Black River, Cumberland Co., N.S., analysis of bituminous coal, (78-79) pp. 11-12 H.
 Cumberland coal-field, coal seams of, north slope of, stratigraphical distance above conglomerate of Styles Brook, (73-74) p. 165.
 Cumberland Co., N.S., continuation of Coal Measures, east of Styles Brook, (73-74) pp. 166-168.
 Drummond colliery, coal for gas production, value of coal, (66-69) E. p. 386, F. p. 428.
 Montreal and Pictou oil-coal seam, descriptions and analysis of coal of, (66-69) E. p. 388, F. p. 430.
 Montreal and Pictou seam, report and analysis, by Prof. Howe, of coal of, (66-69) E. p. 387, F. p. 429.
 Marsh colliery, coal of George Mackays seam, Pictou, N.S., analysis of, (66-69) E. p. 390, F. p. 433.
 Nova Scotia colliery, coal from Acadia seam, analysis of, (66-69) E. pp. 386-387, F. p. 429.
 Nova Scotia colliery, analysis and evaporative power of coal from Acadia seam, (66-69) E. p. 387, F. p. 430.
 Old Fraser mine, Pictou coal-field, report by J. W. Dawson on coal of, (66-69) E. p. 392, F. p. 434.
 Pictou Co., coal from McBean 8 ft. seam, analysis of, (66-69) E. pp. 389-390, F. pp. 431-432.
 analysis and description of coals of, (66-69) E. pp. 365-395, F. pp. 405-438.
 practical trials of coals of, (66-69) E. pp. 396-438, F. pp. 459-489.
 thickness of coal seams, (68-69) p. 8 Summ.
 Port Hood, N.S., analysis of coal, (76-77) p. 469.
 South Springhill, N.S., coal seams of, (66-69) E. p. 447, F. p. 499.

Coal in N. S.—*Cont.*

- Springhill, N.S., analysis of coal from outcrops at, (66-69) E. p. 445, F. p. 497.
 sectional diagram of Coal Measures at, (73-74) p. 154.
 coal seams proved in trial pits at, (73-74) pp. 150-152.
 from Springhill, analysis of, from Black mine, main seam, sulphur content and value for making gas, (66-69) E. pp. 443-444, F. pp. 495-498.
 Springhill coal-fields, N.S., report by Hartley on coal of, (66-69) E. pp. 443-447, F. pp. 495-500.
 Springhill Branch Ry., coal seam in pit near, (73-74) pp. 152-155.
 Styles mine, N.S., analysis of coal from, (74-75) p. 13.
 statistics and record of mines for Nova Scotia, 1869-71, (71-72) p. 149.
 practical trials of, on G. & C. B. Ry., and steam colliers, (72-73) p. 271.

Coal, and Coal Measures of Cape Breton Island,

N.S., general notes on:—

- mode of occurrence, rock masses in, cleat, total thickness of seams, (74-75) pp. 201, 204.
 general note on coal, (75-76) p. 414.
 in Carboniferous conglomerate, (76-77) p. 454.
 in the Millstone Grit of Cape Breton, note on, (76-77) p. 447.
 report by Chas. Robb on Coal Measures of, (74-75) pp. 195-262.
 description of distinct classes of strata in Coal Measures, (74-75) pp. 195-204.
 division of Millstone Grit and Coal Measures, (74-75) p. 195.
 the arenaceous shales of Coal Measures, (74-75) pp. 195-196.
 the argillaceous shales of Coal Measures, (74-75) pp. 195-196.
 the carbonaceous shales of Coal Measures, (74-75) pp. 199-200.
 the coal of the Coal Measures, (74-75) pp. 201-204.
 the limestones of the Coal Measures, (74-75) p. 199.
 the red and green marls of the Coal Measures, (74-75) p. 197.
 the sandstones of the Coal Measures, (74-75) pp. 197-198.
 the underclays of the Coal Measures, (74-75) p. 198.
 in Millstone Grit Formation, characters of coal seams, (73-74) p. 177, and (74-75) pp. 188-189.
 table showing equivalency of coal seams, (74-75) p. 250.
 description and analyses of coal seams worked in, (72-73) p. 290.

Coal and Coal Measures of Cape Breton Island, N.S., localities:—

- Boulardrie District, notes on and sections of coal seams, (74-75) pp. 243-248.

Coal in Cape Breton, N.S.—*Cont.*

- Boulardrie Island, N.S., analysis of coal from fossil trees, McKenzie Pt., (75-76) p. 411.
- Bridgeport mine, N.S., analysis of coal, (72-73) p. 252.
- Broad Cove River, N.S., sections of coal seams, succession of seams given by Prof. Hind and Mr. Brown, (82-84) pp. 72-73 H.
- in Cape Breton and Richmond Cos., N.S., (77-78) p. 28 F.
- Cape Dauphin area, Coal Measures in contact with syenite, (74-75) p. 255.
- sections and plan of outcrop of coal seams, (74-75) pp. 255-257.
- Cape Susan, Inverness Co., N.S., coal in sections at, (79-80) p. 109 F.
- Carroll seam, N.S., analysis of coal, (74-75) p. 193.
- Catalogne Gut, N.S., coal reported in Millstone Grit near, (77-78) p. 25 F.
- Collins mine, N.S., analysis of coal from, (74-75) p. 241.
- Edwards pit, on Indian Creek seam, N.S., analysis of coal from, (74-75) p. 240.
- Gaspereaux and Salmon rivers, N.S., coal in the Millstone Grit of, (76-77) p. 453.
- George Brook, N.S., small pieces of coal in limestone, analysis of, (75-76) p. 406.
- Hunters Mountain, N.S., coal of, (76-77) p. 454.
- horizon of, (82-84) p. 41 H.
- International mine, N.S., analysis of coal from Harbour seam, (74-75) p. 221.
- Inverness Co., N.S., coal seams in coal-field, list of and thickness, quality, (73-74) pp. 182-183.
- appendix to report on, (73-74) pp. 188-191.
- sections and descriptions of Coal Measures of, (82-84) pp. 53-76 H.
- Inverness coal-field, N.S., notes on and analyses of coal, by G. C. Hoffmann, (73-74) pp. 188-191.
- Little Glace Bay, N.S., Coal Measures at, sections published by J. P. Leslie, (73-74) p. 177.
- Little River, Richmond Co., N.S., coal in rocks of, (79-80) p. 71 F.
- analysis of coal from, (79-80) p. 119 F.
- Loch Lomond, N.S., analysis of coal from, (76-77) p. 470.
- McAdams Lake, N.S., analysis of coal from, (76-77) p. 470.
- McLeod Brook, coal seams of, (82-84) p. 74 H.
- Mira Bay, N.S., thickness of Coal Brook seams, (74-75) p. 117 R.
- New Campbellton mines, N.S., attitude of seams, thickness, irregularity of six-feet seam, (73-74) pp. 184-185.
- Phelan seam, Reserve mine, N.S., analysis of coal from, (72-73) p. 266.
- Richmond and Inverness Cos., N.S., notes on coal of, (79-80) pp. 117-121 F.

Coal in Cape Breton, N.S.—*Cont.*

- River Inhabitants syncline, Inverness Co., N.S., Coal Measures of, (79-80) pp. 97-100 F.
- Salmon and Gaspereaux rivers, N.S., coal on the, (76-77) p. 453.
- Salmon River, N.S., analysis of coal of, (76-77) p. 454.
- Sea-coal Bay, Richmond Co., N.S., analysis of coal, (79-80) p. 121 F.
- Sydney mines, N.S., reference to work of R. Brown on Coal Measures of, (73-74) p. 177.
- Sydney coal-fields, correlation of coal seams from east and west portion of, (73-74) p. 179.
- Sydney Harbour, west side, position of fossiliferous limestone in section of Coal Measures, (74-75) p. 236.
- Sydney Harbour, N.S., analysis of coal from Fraser seam, (74-75) p. 193.
- Tracy mine, Mira Bay, N.S., analysis of coal from, (74-75) p. 189.
- Coal, in Devonian rocks of Ontario and Quebec, note on, (1863) p. 528.
- in Gaspé, Que., in section of Gaspé sandstone, Gaspé Bay, (1863) p. 394.
- in P.E.I., note on probability of finding, (82-84) pp. 16-17 E.
- Coal Banks, Belly River, character of coal seams at, horizon of, (80-82) p. 9 B.
- illustration showing outcrop, (80-82) facing p. 10 B.
- analysis of clay iron-stone from, (80-82) p. 11 H. and (82-84) p. 168 C.
- position of coal at, (80-82) p. 11 B.
- sections of outcrops of coal seams, (80-82) pp. 12-13 B.
- estimated quantity of coal per square mile, (80-82) p. 22 B.
- width of river channel, description of valley, (82-84) p. 25 C.
- mode of occurrence of coal in banks at, (82-84) pp. 70-71 C.
- diagram of section of coal seams, (82-84) facing p. 72 C.
- relation of series at, (82-84) p. 123 C.
- analysis of lignitic coal from, (82-84) p. 30 M.
- Coal Banks Crossing, Belly River, Alta., illustration showing drift deposits in banks of, (82-84) facing p. 140 C.
- Coal Banks main seam, composition of coal, analyses of, from Belly River and Bow River, (80-82) p. 14 B.
- character of outcrops on Milk River, St. Mary River, Belly River and Bow River, (80-82) pp. 9-14 B.
- outcrop of, on Little Bow River, (82-84) p. 80 C.
- Coal basin of Sydney Harbour, N.S., general description, sections, coal seams, collieries, (74-75) pp. 223-242.
- Coal-bearing formations of Western Canada, general note on, (79-80) pp. 12-13 A.

- Coal Branch, Richibucto River, N.B., note on coal and coal seams on, (80-82) pp. 4-5 D. stratigraphical position of coal seams at, (80-82) p. 6 D.
- Coal Branch Station, N.B., outcrop of coal, thickness of, (80-82) p. 5 D.
- Coal Brook, Richmond Co., N.S., rocks of, (79-80) p. 69 F.
note on Coal Measures of, mining operations at, (79-80) p. 118 F.
- Coal Brook, Missinaibi River, Ont., lignite fragments in river below, (75-76) p. 326.
- Coal Brook, Nicola River, B.C., boulder clay of, section of, (77-78) p. 140 B.
- Coal Brook North Thompson River, B.C., section of Tertiary, character of beds, (77-78) pp. 113-114 B.
- Coal Brook, Pictou Co., N.S., black shales and clay iron-stones, (66-69) E. p. 71, F. p. 79. crossing of New Glasgow and Hopewell road, $3\frac{1}{2}$ ft. seam, (66-69) E. p. 83, F. p. 93.
- Coal Brook, Pine River, N.W.T., east branch, near Lower Forks, description of, (79-80) p. 47 B.
note on coal from, (79-80) p. 117 B.
note on fossil plants from, (79-80) p. 121 B.
exposures of upper shales on, (79-80) p. 122 B.
analysis of lignite from, (79-80) pp. 13-14 H.
- Coal Brook seam, thickness at Mira Bay, N.S., (74-75) p. 177.
- Coal Creek, Bow River, Alta., note on coal seams on, (82-84) pp. 19-20 B.
analyses of coal from, (82-84) p. 32 M.
beds exposed on Bow River near, (82-84) p. 80 C.
- Coal Creek, Grand Lake, Queens Co., N.B., upper series of pre-Carboniferous, pale argillite series, (70-71) p. 200.
boring for coal, (72-73) p. 181.
second boring for coal in 1866 on, (72-73) p. 226.
third boring for coal in 1870 on, (72-73) p. 226.
coal formation thin at, (72-73) p. 207.
section in cliff, Devonian, (72-73) p. 208.
coal seams formerly worked, (72-73) p. 208.
borings in Coal Measures at, (72-73) p. 208.
masses of hematite on, (72-73) p. 227.
Devonian slates traced on, Newcastle boring reaching down to, (74-75) p. 91.
- Coal-cutting machinery, necessity for using, (70-71) p. 3.
- Coal deposits of the Bow and Belly River Region, Alta., with report on geology of, by G. M. Dawson, (80-82) pp. 1-23 B.
of Vancouver Island, report on deposits on Strait of Georgia, (71-72) pp. 76-89.
reference to localities, (71-72) p. 75.
- Coal-fields, of Alberta, probable extent of, (73-74) p. 50.
Cape Breton Co., N.S., subordinate basins in, (74-75) pp. 204-262.
- Coal-fields—*Cont.*
of Cumberland Co., N.S., report on portion of, by W. McOuat, (73-74) pp. 161-170.
report of progress in surveys, S. Barlow, (75-76) pp. 343-347.
of Comox, Nanaimo and Cowitchen, B.C., map of, scale 4 m. = 1 in., accompanying, (76-77).
of Inverness Co., N.S., report by Chas. Robb, (73-74) pp. 182-183; appendix by G. C. Hoffmann, (73-74) pp. 188-191.
Nanaimo, B.C., report by Jas. Richardson, with map, 4 m. = 1 in., (76-77) pp. 170-187.
of New Brunswick, researches of Dr. Jas. Robb, (70-74) p. 22.
of Vancouver Island, B.C., report by Jas. Richardson, (71-72) pp. 73-100.
of Vancouver Island, B.C., in form of a trough, (71-72) p. 76.
report by Jas. Richardson, (76-77) pp. 160-192.
of United States, relations of, (1863) p. 18.
- Coal Gully, Nicola River, B.C., section of coal-bearing strata, (77-78) p. 125 B.
diagrammatic section of Tertiary coal measures, (77-78) facing p. 174 B.
- Coal Island, B.C., rocks of, fossil leaves found in beds of, (71-72) pp. 87-88.
- Coal mining in North-eastern Cape Breton, N.S., need of harbours, (80-82) p. 7.
in New Brunswick, first mining operations in, (72-73) p. 204.
in Cape Breton, N.S., general remarks on, earnings of mines, cost of raising coal, (72-73) p. 287.
condition of mines and coal beds, (72-73) p. 288.
utilization of slack or small coal, (72-73) p. 288.
long wall working, (72-73) p. 289.
advantages of steam colliers, (72-73) p. 289.
collection of statistics, (72-73) p. 289.
- Coal Mine Point, Mabou coal-fields, N.S., sections north and south from (82-84) pp. 61-67 H.
- Coal mines, of Seacoal Bay, N.S., coal seams and character of coal, (79-80) p. 121 F.
Northern Cape Breton, note on workings, (82-84) pp. 87-90 H.
of Rocky Mountains, Colorado, Utah and Wyoming, by Prof. Jas. T. Hodge, extracts, (73-74) pp. 54-56.
of Sydney coal-field, N.S., report on, by Chas. Robb, (72-73) pp. 238-289.
- Coal Point, Saanich Inlet, B.C., coal seams at, (71-72) p. 89.
- Coal trade in Cape Breton, N.S., (72-73) p. 288.
- Coast of British Columbia, exploration of Jas. Richardson, 1874, (74-75) pp. 71-83.
superficial geology of, (74-75) pp. 74-75.
note on maps of, (79-80) p. 3 B.
- Coast of New Brunswick, from St. John eastward, second report by Gesner, (70-71) p. 18.

Coast of New Brunswick—*Cont.*

- St. John and Albert Counties, (77-78) p. 2 D.
note on character of, (80-82) p. 4 D.
- Coast below Ruisseau Castor, near Ste Anne de Monts, Que., illustration showing, (80-82) facing p. 24 DD.
- Coast plants, appearance of on Salmon River, B.C., (76-77) p. 28.
- Coast Range, B.C., rocks of compared with Rocky Mountains, (76-77) p. 89.
age of rocks of, (76-77) p. 104.
Jurassic fossils from, (76-77) pp. 150-159.
elevations of terraces on eastern slope, (77-78) p. 148 B.
rocks of, suitable for building stone, (77-78) p. 164 B.
composition of, rocks probably of no great antiquity, (77-78) p. 170 B.
- Coast region of Northern British Columbia, physical features and economic importance of, (79-80) pp. 2-5 B.
- Coastal felsites, Cape Breton Co., N.S., (77-78) pp. 6-10 F.
- Coastal Group of Huronian of N.B., character and distribution of, (70-71) pp. 83-84.
at Beaver Harbour, N.B., L. Etang, and western shores, (70-71) pp. 85-92.
general extent and relations of, (78-79) pp. 3-4 D.
characters in Charlotte Co., probably Laurentian, (76-77) p. 334.
distribution in eastern part (76-77) p. 334.
in eastern part St. John and Albert Cos., N.B., (70-71) pp. 97-100.
in eastern part St. John Co., N.B., history of, (70-71) p. 98.
in western part St. John Co., N.B., (70-71) pp. 94-97.
- Cobalt, arseniate of, found in Prince's mine, Lake Superior, (1863) p. 505.
ores of, note on occurrences of, (1863) p. 506.
ores of, extraction of, from pyrites, (1863) p. 750.
in pyrites from Londonderry, N.S., percentage, (74-75) p. 14.
in pyrrhotite of Elizabethtown, Ont., (74-75) p. 305.
and nickel in pyrites from St. Jerome, Que., (76-77) p. 482.
- Cobaltiferous pyrites, at Elizabethtown, Ont., cost of extracting cobalt from, (1863) p. 750.
occurrence of, at Elizabethtown, near Brockville, Ont., (1863) p. 506.
- Cobbs Brook, Inverness Co., N.S., syenite and quartzite, amygdaloidal trap with hematite, (82-84) p. 10 H.
- Cobequid Hills, N.S., description by J. W. Dawson, (72-73) p. 19.
- Coboconk, Ont., analysis of dolomite from, (82-84) pp. 1-2 MM.
- Coburg, Ont., exposures of Trenton, nodular limestone and shale, fossils in, (1863) p. 189.
clays for making white bricks at, (1863) p. 898.
stratified clays of, (1863) p. 904.
ore shipped from Crow Lake, (66-69) E. p. 161, F. p. 178.
- Cocagne, N.B., stratigraphical position of coal seam at, (80-82) p. 6 D.
- Cochin Lake to Tatlayoco Lake, B.C., character of country, (75-76) p. 239.
- COCHRANE, A. S., work by, in 1877, survey of Abitibi River, (77-78) p. 2 C.
summary of surveys made in 1879 in country south of Oxford House, (78-79) pp. 4 and 29-38 C.
notes on survey of Abitibi River, geology of, (77-78) pp. 33-37 C.
work outlined for 1880 by R. Bell, (79-80) pp. 2-3 C.
report on explorations of, Cross Lake to Reindeer Lake *via* Cumberland House, length of track-surveys, (79-80) pp. 8-15 C.
outline of route of explorations for 1881, Reindeer Lake to Athabasca Lake and return *via* Churchill River, (80-82) pp. 4-5.
summary of explorations by, during 1882, east and north of Lake Winnipeg, (80-82) pp. 15-16.
map prepared by, illustrating R. Bell's explorations on Athabasca River, (82-84) pp. 5-6 CC.
- Cockburn Island, Lake Huron, Hudson River rocks on, (1863) p. 219.
south side occupied by Niagara Formation, (1863) p. 333.
topography and geology of by R. Bell, (66-69) E. pp. 109-117, F. pp. 123-132.
physical description, (66-69) E. p. 110, F. p. 124.
thickness of Niagara, bituminous dolomites, fossils, (66-69) E. p. 114, F. p. 128.
- Cockspur thorn, note on northern limit of in Canada, (79-80) p. 54 C.
- Codfish of waters of Queen Charlotte Islands, note on, (78-79) p. 44 B.
on Labrador coast, note on, (82-84) p. 20 DD.
- Coineach Brook, North-east Margaree River, N.S., pre-Cambrian rocks of, (82-84) p. 26 H.
- Coke, results of experiments on production of from mixture of non-caking and caking coal, (82-84) pp. 8-9 M.
- Colborne Tp., Ont., Corniferous, exposures of on Maitland River, near Goderich, (1863) pp. 376-377.
- Colchester Co., N.S., summary of work by A. R. C. Selwyn in 1872, (72-73) p. 1.
description of Eureka mine and deposit of barite, (82-84) p. 23 L.
general notes on, see Part I p. 5.



- Coldbrook, N.B., fossils from St. John Group, list of, (70-71) p. 138.
- Coldbrook Group of Matthew, characters of, in New Brunswick, (70-71) p. 23.
- history, arrangement of strata, (70-71) pp. 58-59.
- topographical features, soils produced, (70-71) p. 59.
- in St. John and Kings Cos., N.B., (70-71) pp. 65-69.
- in Wicklow, Kars and Springfield, Kings and Queens Cos., N.B., (70-71) pp. 69-82.
- Queens and Sunbury Cos., N.B., descriptions of outcrops, (75-76) pp. 350-352.
- relation to rocks of Coastal Group, (77-78) p. 9 D.
- described under felsite and petrosilex group of pre-Silurian, Kings and St. John Cos., N.B., (77-78) pp. 3-17 DD.
- of Southern New Brunswick, extent of formation and localities, (78-79) p. 3 D.
- Coldbrook iron-works, St. John, N.B., succession of rocks in northern anticlinal ridge, (70-71) p. 62.
- pre-Silurian rocks of division 4, (77-78) p. 25 DD.
- Coldbrook nail factory, N.B., extension of Primordial eastward of, (77-78) p. 28 DD.
- Coldspring House, Lightning Creek, B.C., lignite at, (76-77) p. 145.
- Coldspring mine, Melbourne, Que., note on ore veins, workings, (1863) pp. 722-723; and (63-66) p. 38.
- Coldstream Valley, near Okanagan, B.C., general description, mode of formation of, (77-78) p. 58 B.
- remarkable erratic, size and character of, (77-78) p. 150 B.
- illustration showing, (77-78) facing p. 150 B.
- Coldstream or Coldspring mine, in Melbourne Tp., Que., (63-66) p. 38.
- also note on ore veins, workings, (1863) pp. 722-723.
- Coldwater Bridge, B.C., valley at, description of rocks, timber, etc., (77-78) pp. 38-39 B.
- Coldwater River, Nicola River, B.C., description of trail to Boston Bar, (77-78) p. 36 B.
- description of trail from Nicola to Hope, B.C., (77-78) p. 38 B.
- schists and slate above first bridge, (77-78) pp. 69-70 B.
- Cascade Crystalline Series, (77-78) p. 70.
- section of coal seam near mouth of, (77-78) pp. 123-124 B.
- Tertiary rocks of, (77-78) p. 126 B.
- note on coal of, (76-77) p. 128.
- boulder clay of, (77-78) p. 140 B.
- elevation of terraces in valley of, (77-78) p. 146 B.
- elevation of terrace at source of Coquihalla River, (77-78) p. 148 B.
- Coldwater River, Ont., sandstones and shales exposed at mouth of, used as pipestone by Indians, (1863) p. 192.
- Coleraine Tp., Que., serpentine band in, (1863) p. 254.
- from island in Lac Noir, microscopic structure of gneiss, (80-82) p. 19 A.
- Coleoptera, list of, collected on Peace River expedition, (75-76) pp. 107-109.
- of Tertiary beds of Quesnel, B.C., (75-76) p. 278.
- of Tertiary of Nicola River and Nine Mile Creek, B.C., (77-78) pp. 178-182 B.
- list of, from Nelson and Churchill rivers, (78-79) pp. 65-66 C.
- collected in 1880 in Manitoba and thence to Hudson Bay, (79-80) pp. 70-74 C.
- list by Le Conte, collected by R. Bell, Lake Superior district and N.W.T., in 1881, (80-82) pp. 29-39 C.
- from Churchill, collected by J. R. Spencer, list of, (82-84) p. 62 D.D.
- Coles Falls, Saskatchewan River, cliffs of boulder clay, (73-74) p. 51.
- Cole's mine, Ross Tp., Ont., note on apatite deposit of, (82-84) p. 6 L.
- Collections, of rocks and fossils made by A. R. C. Selwyn in British Columbia in 1871, (71-72) p. 19.
- of fossils added to Museum in 1872-73, (72-73) p. 2.
- of fossils added to Museum in 1873-74, (73-74) p. 5.
- added to Survey during years 74-75, (74-75) p. 11.
- sent to Elora Public School, Ont., (74-75) p. 15.
- additions to the Palæontological branch of Museum for 1876, (76-77) p. 6.
- supplied to institutions, etc., in 1876-77, (76-77) p. 7.
- of specimens for Philadelphia Exhibition, by H. G. Vennor, (76-77) p. 244.
- of fossils made by officers of the Survey, 1882, (80-82) p. 24.
- of fossils presented to Royal Military College and Queens College, Kingston, (80-82) p. 24.
- of minerals distributed to educational institutions during 1882, (80-82) p. 27.
- of fossils presented to Survey during 1883, (82-84) pp. 18-20.
- Collieries in the Cow Bay Basin, N.S., (74-75) pp. 210-211.
- in the Lingan Tract, N.S., note on new works, (74-75) pp. 229-230.
- in the Sydney Mines District, N.S., (74-75) pp. 239-242.
- in operation in Sydney coal-fields, N.S., in 1872, (72-73) pp. 241-289.
- list of, (72-73) p. 290.
- Collingwood, Ont., exposures of Trenton Group in vicinity of, noted, (1863) p. 193.
- extraction of bitumen from Utica shale tried at, (1863) p. 212.
- outcrop of Clinton Formation in vicinity of, (1863) pp. 315-316.
- petroleum extracted from shales at (1863) p. 528.

- Collingwood, Ont.—*Cont.*
 examination of bituminous shale from, (1863) p. 622.
 distillation of bituminous shales attempted, note on, (1863) p. 784.
 fresh-water shells found in sands at railway cutting, (1863) p. 911.
 longitude of, determined by E. D. Ashe, (1863) p. 9 Atlas.
- Collingwood Tp., Ont., exposures of Utica Formation, fossils of, (1863) p. 211.
 thickness of Hudson River Formation, (1863) p. 213.
 distribution of Medina and Clinton Formations in, (1863) p. 317.
 character of Niagara Formation in, (1863) p. 328.
- Collins Brook, Margaree River, N.S., sandstones and grits of, (82-84) p. 45 H.
- Collins Inlet, near Shibaonaning, Ont., rocks of, (76-77) p. 208.
- Collins mine, (Little Bras d'Or mine) N.S., description of workings, analysis of coal, surface works, (74-75) p. 241.
- Collins seam, section on Little Bras d'Or, N.S., (74-75) p. 238.
- COLLISON, REV. MR., Haida terms of relationship obtained by, (78-79) pp. 180-181 B.
 estimate of present population of Queen Charlotte Islands, (78-79) p. 174 B.
- Collison Bay, Morsby Island, Q.C.Is., general description of, (78-79) p. 17 B.
- Colls Bay, Georgian Bay, Ont., limestone of Birdseye and Black River, fossils of, (1863) p. 192.
- Colombe Lake, Garibby Tp., Que., clay slates between Aylmer Lake and, (1863) p. 430.
 gabbro from west of, microscopic structure of, (80-82) p. 12 A.
- Colorado coal mines, extracts from report by Prof. Hodge, (73-74) pp. 54-56.
- Colour of the boulder clay, in Southern New Brunswick, (77-78) p. 3 EE.
 in western part of plains, Southern Alberta, (82-84) p. 143 C.
- Colour of rocks, on sea coast of N.B. denoting different series, (70-71) p. 97.
 change of, in rocks of Kaladar Tp., Ont., (76-77) p. 254.
- Coloured geological sections for parts of Southern New Brunswick, accompanying, (78-79) rep. D.
- Colouring and notation of maps, scheme used by Survey, (80-82) pp. 49-51.
- "Colours" of gold, list of localities in Quebec where found in drift, (80-82) pp. 3-4 A.
- Colours and signs used on maps and sections, index to the, (80-82) facing p. 47.
- Colpitts Brook, N.B., section of Lower Carboniferous, (76-77) p. 359.
- Colpoys Bay, Georgian Bay, Ont. islands in, composed of Hudson River Formation, (1863) p. 214.
 base of Clinton Formation, crossing, (1863) p. 318.
 base of Niagara Formation on escarpment around, (1863) p. 331.
- Columbia River, B.C., area drained, navigability of, (71-72) p. 50.
 at International boundary line, rocks seen in valley, (82-84) pp. 22-24 B.
- Columbia River Valley, B.C., gravel terraces, (82-84) p. 34 B.
- Columnar markings in limestones, examples of, wood-cuts showing, (1863) pp. 631-633.
- Columnar markings, *see* crystallites.
- Columnar structure in diorites, Lac des Quinze, Ottawa River, (72-73) p. 117.
- Columnar trap, south side of Lake Nipigon, (66-69) E. p. 345, F. p. 381.
 of large dyke at Standing Rock Rapid, Grass River, Keewatin, illustration, (78-79) p. 28 C.
- Columnaria alveolata*, Goldfuss, wood-cut of, (1863) p. 139.
- Columnaria incerta*, Billings, wood-cut of, (1863) p. 124.
- Columns, inclined, of basalt on Nechacco River, B.C., (76-77) p. 82.
- Colville Mill Valley, Washington, U.S., section in, (82-84) p. 23 B.
- Combustibility, mode of determining in graphites, (76-77) p. 490.
 comparative table of, (76-77) p. 509.
- Combustion of lignite, in Vermilion Cliff, Tulameen River, B.C., (77-78) p. 131 B.
 in Bad Lands section, south of Wood Mountain, N.W.T., (79-80) p. 35 A.
- Comox, B.C., coal seams near section on Puntledge River, (71-72) pp. 77-78.
 analysis of coal from, Beaufort, Union and Baynes Sound mines, (71-72) pp. 98-99.
 list of fossil plants from Union mine, (71-72) p. 98.
 coal measures at, note on, (76-77) p. 122.
 general section at, (76-77) p. 162.
- Comox coal-basin, B.C., limits of basin to south, area of, quantity of coal in, calculated, (71-72) p. 80.
 map with sections accompanying report, (72-73) p. 32-35.
 boundaries of, measurements in, (72-73) p. 34.
 coal-bearing rocks of, (72-73) pp. 34-56.
 thickness of divisions of coal-bearing series, (72-73) p. 51.
 analyses of coal from, (72-73) pp. 76-78.
 small seam of coal near Fanny Bay, not previously recorded, (73-74) p. 98.
 report by Jas. Richardson, map, 4 m. = 1 in., (76-77) pp. 161-170.
 diagrammatic section, with map, (76-77).
 map of, scale, 4 m. = 1 in. accompanying, (76-77).

- Comox coal-bearing rocks, referred to Chico Group, (72-73) p. 75.
- Comox district, B.C., character of soil and vegetation, (71-72) pp. 94-95.
crops raised, fruits, (71-72) p. 95.
soil, vegetation and rainfall, (72-73) pp. 64-65.
- Comox Harbour, B.C., facility of trade accommodation, (71-72) p. 81.
- Comparative sections of coal seams on Belly River, Alta., below Coal Banks, diagram, (82-84) facing p. 72.
table of Cretaceous subdivisions, (79-80) pp. 128-129 B.
- Comparison of chlorides in brines of Canada and Nova Scotia, (66-69) E. p. 234, F. p. 259.
of coals by analyses from Springfield and Newcastle, (66-69) E. p. 446, F. p. 498.
of N.W.T., coals and lignite with American and European fuels, (80-82) p. 21 B.
of assays of quartz from Eastern Townships, (63-66) p. 84.
- Compass, variation of, list of observations, Churchill and Nelson rivers and Lake Winnipeg, (78-79) pp. 71-72 C
- Composition of the boulder clay, (77-78) p. 2 EE.
of brines, note on, (66-69) E. p. 230, F. p. 255.
of clay iron-stones of Lignite Tertiary, (79-80) p. 48 A.
of coal from Cowgitz, Q.C.Is., analyses quoted, (78-79) p. 76 B.
of coals, lignites, etc., diagram illustrating (80-82) facing p. 21 B.
of coals, note on change in, near Rocky Mountains, (82-84) p. 132 C.
of coals in Alberta, compared geographically and geologically, (82-84) pp. 134-135 C.
of fuels, bearing of on question of age, (82-84) p. 136 C.
of fuels, possible cause of changes in, (82-84) p. 137 C.
and practical value of lignites and iron-stones, (79-80) pp. 41-49 A.
- Compton Co. Que., for general geology of see *Part I* p. 8.
- Concentrating process of nature *in re.* iron ore, (73-74) p. 193.
- Conchocele cretacea* Whiteaves, description and figure, (73-74) p. 266.
- Conchoidal lignite, from near Blackfoot Crossing, Bow River, Alta., analysis of, (82-84) pp. 20-21 M.
- Concretionary band of sandstone below Grand Rapid, Athabasca River, Atha., with wood-cut showing forms, (82-84) p. 11 CC.
- Concretionary doleritic rock, on I.C.R., below Grants Brook and Peters River, Gloucester Co., N.B., (79-80) p. 24 D.
- Concretionary felsite of Gull Cape, Scatari Island, N.S., (77-78) p. 7 F.
- Concretions, of argillite in banks of Athabasca River, below Rivière la Biche, (82-84) p. 8 CC.
of iron pyrites in shales of Mira basin, N.S., (77-78) p. 12 F.
in rocks of Upper Copper-bearing Series on Kaministiquia River, (1863) p. 69.
in sandstone at Grand Rapids, Athabasca River, with illustrations, (82-84) pp. 10-11 CC.
in Tertiary beds of Pyramid Creek, International boundary, (79-80) p. 26 A.
- Conditions of deposit of Cretaceous rocks, (79-80) pp. 133-134 B.
- Cone-in-cone concretions, Little Bras d'Or Lake, N.S., (76-77) to p. 406.
McLeod Brook, N.S., (76-77) p. 428.
in Devonian limestones of Richmond Co., N.S., (77-78) p. 23 F.
in limestones of McLean Point, St. Andrew Channel, N.S., (75-76) p. 392.
- Conestogo River, Wellington Co., Ont., fragments of Onondaga rocks abounding in, (1863) p. 351.
superficial deposits, (1863) p. 900.
- Confluence of Stuart and Nechacco Rivers, B.C., character of country near, (76-77) p. 52.
- Conformable series in Laramie of Southern Alberta, (82-84) p. 112 C.
- Conformity of argillites and limestones, Skedans Bay, Q.C.Is., (78-79) p. 62 B.
between limestone and igneous rocks at Limestone Island, Q.C.Is., (78-79) p. 61 B.
- Conglomerate, on Addington road, Barrie, Tp. Ont., (72-73) pp. 151-152.
stamp mill, crushing, (72-73) p. 152.
included in Albert shales, (76-77) p. 358.
containing Albertite at Haley farm, Mechanics Settlement, N.B., (78-79) p. 17 D.
distribution at Baltimore, N.B., (76-77) p. 373.
in pre-Silurian rocks of Barnesville, N.B., (77-78) p. 8 DD.
near east branch Black River, N.B., on road, (70-71) p. 175.
of Bonaventure Island and Percé Mt., Gaspé, Que., note on, (80-82) p. 2 DD.
of Cambro-Silurian, Canterbury Parish, N.B., near Dorrington Hill, (82-84) p. 14 G.
Carboniferous, in Cape Breton, N.S. (76-77) pp. 437-441.
of Cretaceous of Q.C.Is., (72-73) pp. 62-63.
distribution, thickness, fossils, (78-79) pp. 65-66 B.
copper-bearing, Albany & Boston Mining Co., Mich., (63-66) p. 157.
cupriferous, of Cape Breton, N.S., (76-77) pp. 438, 441, 444, 446, 450.
Devonian of Oak Bay, N.B., (76-77) p. 334.
diorite, Rutherford Township, Ont., (76-77) p. 209.
dolomitic, from vicinity of Montreal, mineral and chemical peculiarities, (1863). p. 357.

Conglomerate—*Cont.*

- of Framboise basin of Lower Silurian, N.S., characters of, (77-78) p. 16 F.
 on François Lake, B.C., (76-77) p. 87.
 of Gargantua Cape, Lake Superior, (76-77) p. 218.
 Gordon Falls, on Pollet River, N.B. syncline in, (76-77) p. 372.
 of north end of Graham Island, Q.C.Is., (78-79) p. 83 B.
 at Grand Rapids, Athabasca River, polished pebbles, (82-84) p. 10 CC.
 of the Hastings Series, horizon and distribution of, (66-69) E. p. 157, F. p. 174.
 at Flinton, Ont., (72-73) p. 151.
 in Huronian of Pipestone Lake, Nelson River, (77-78) p. 19 CC.
 of east shore of Lake Superior, (76-77) p. 214.
 Laurentian, note on, (1863) p. 31.
 in Lévis Formation at Point Lévis, Que., distribution and list of fossils (1863) pp. 861-864.
 of Logan Inlet, Q.C.Is., position of, (78-79) p. 59 B.
 Lower Carboniferous, of Cape Breton, N.S., in vicinity of Sydney, (73-74) p. 173.
 at base of Trenton Group, Loughborough Tp., Ont., (1863) p. 179.
 of McLellans Mountain, Pictou, N.S., (66-69) E. p. 6, F. p. 7.
 in Madoc and Tudor Tps., Ont., (63-66) p. 93.
 in disturbed belt on Middle Fork, Old Man River, Atla., (82-84) p. 100 C.
 west side Okanagan Lake, B.C., (77-78) p. 129 B.
 on Opsatika Lake, Ottawa R., (72-73) p. 123.
 Pecks Creek, N.B., relations of Albert shales to (76-77) p. 373.
 of Pirate Cove, Bay of Chaleurs, Devonian age, extent of, (80-82) p. 10 D.
 of Point aux Mines, L. Superior, vicinity of, (76-77) p. 215.
 of Pollet River, N.B., (76-77) p. 371.
 pre-Carboniferous, Pictou coal-field, (66-69) E. p. 57, F. p. 63.
 in valley of Somass River, Alberni Canal, B.C., (72-73) p. 55.
 quartz, of Gros Cap, Lake Superior, (76-77) p. 220.
 quartzose, in Lynks clearing, Bengal road, Cape Breton, N.S., (77-78) p. 13 F.
 for building stones below Quebec, (66-69) E. p. 140, F. p. 157.
 red, relations of in Albert and Westmoreland Cos., N.B., (76-77) p. 371.
 of upper part of Upper Copper-bearing rocks of Lake Superior, general note on, (1863) p. 70.
 Upper Silurian, in northern part of Charlotte Co., N.B., (76-77) p. 330.
 of Woodstock, N.B., (74-75) p. 100.
 and grits, bituminous, of Albert mines, N.B., (76-77) p. 382.
- Conglomerate dyke of Burlington, Vt., probably similar to filled fissure at Pointe Clair, Que., (1863) p. 357.
- Conglomerate Point, Cumshewa Inlet, B.C., exposures at, (78-79) p. 78 B.
 diagramatic section, (78-79) p. 79 B.
- Conglomerate sandstone or gneiss at Lake Island, Millbank Sound, B.C., (74-75) p. 76.
- Conical Mountain, Gaspé, height, igneous rocks of, (1863) p. 411.
 dolerites cutting Devonian (82-84) p. 33 E.
- Coniferous woods, fossil, Vancouver Island and Queen Charlotte Islands, note on, by J. W. Dawson, (72-73) pp. 66-67.
- Conjuring House, at rapid on Missinaibi River, Ont., note on, illustration showing, (77-78) p. 7 C.
- Conklin Gulch, B.C., gold workings of, (76-77) p. 135.
 assay of gold and silver ore from near, (75-76) p. 429.
- Conocephalites Adamsi*, Billings, wood-cut of specimen from Highgate Springs, Vt., (1863) p. 286.
- Conocephalites arenosus*, Billings, wood-cut of, from Highgate, Vt., (1863) p. 286.
- Conocephalites miser*, Billings, wood-cut of, from Highgate Springs, Vt., (1863) p. 286.
- Conocephalites Teucer*, Billings, wood-cut of, from Highgate, Vt., (1863) p. 286.
- Conocephalites Vulcanus*, Billings, wood-cut of specimen from Highgate, Vt., (1863) p. 286.
- Conocardium Blumenbachii*, Billings, wood-cut of, (1863) p. 113.
- Conocardium immaturum*, Billings, wood-cut of enlarged specimen, (1863) p. 143.
- Conocardium trigonale*, Conrad, wood-cuts of, (1863) p. 375.
- Construction of houses by Haida Indians, gatherings for, (78-79) p. 118 B.
- Contact, of Animikie and Huronian at Thunder Bay, Ont., unconformity, (1863) p. 77.
- Carboniferous limestone and pre-Silurian felsite at Catalogne Lake, N.S., (77-78) p. 8 F.
- of Carboniferous conglomerate with felsites at Grand River, N.S., (77-78) p. 10 F.
- of Carboniferous and pre-Cambrian rocks of Morrison Road, Richmond Co., N.S., (79-80) p. 65 F.
- of Coal Measures and syenite in Cape Breton, N.S., (74-75) p. 255.
- of diabasic rocks of Northern New Brunswick, with Silurian, (79-80) p. 38 D.
- of George River limestone and syenite and diorite on McPhersons Brook, Inverness Co., N.S., (79-80) p. 14 F.
- of gneiss and syenite in Mill Brook, Big Brook, West Bay, Inverness Co., N.S., (79-80) p. 16 F.
- of granites and slates, York Co., N.B., (70-71) p. 246.
- of granite and Devonian limestones in Eastern Quebec, near Lake Memphremagog, (80-82) p. 5 A.

- Contact, of Huronian and Laurentian, conformable, (72-73) p. 106.
- of Huronian and Laurentian on Kaministiquia River, Ont., (1863) p. 64.
- of Huronian and Laurentian, Lake Superior, (63-66) pp. 127-129.
- of Huronian and Laurentian, at Rat Portage, Ont., (72-73) p. 103.
- of Huronian greenstone and gneiss uncertain on Lake Wahcomatagaming, Ont., (1863) p. 842.
- of intrusive granite with Laurentian on Bald Mt. Lake, N.B., (70-71) p. 189.
- of intrusive granites and schists at Fannens Lake, N.B., (70-71) p. 190.
- of Laurentian gneiss with intrusive granite on Leweys Island, N.B., (70-71) p. 49.
- of Laurentian and Huronian on Oxford Lake, Keewatin, character of, (77-78) p. 21 CC.
- of Laurentian and Huronian, on Lac des Quinze, Ottawa River, (72-73) p. 120.
- of Lower Silurian and pre-Silurian rocks at junction of French and Gabarus roads, N.S., (77-78) p. 13 F.
- of metamorphic and Carboniferous, at Long Creek, St. John River, N.B., (66-69) E. p. 181, F. p. 200.
- of quartzite and syenite, near Auld Cove, Guysborough Co., N.S., (79-80) pp. 9-10 F.
- of syenite and calc-schist at Church Brook, North Mountain, Inverness Co., N.S., wood-cut showing, (79-80) p. 21 F.
- of trap and Silurian rocks at Black Cape, Bay of Chaleurs, (80-82) p. 13 D.
- of Triassic trap with older rocks, Red Head, Grand Manan Island, N.B., (70-71) p. 220.
- of Triassic and Lower Carboniferous at Quaco Head, N.B., (78-79) p. 22 D.
- Contorted gneiss bands in Laurentian limestone, wood-cut showing section in Blythfield and at Chats Falls, Ottawa River, (1863) pp. 27-28.
- Contorted shales on Middle Fork, Old Man River, Alta., diagram showing, (82-84) p. 102 C.
- Contorted slates on Lake Temiscouata, diagrammatic section of, (1863) p. 425.
- Converging glacial grooves in Southern New Brunswick, (71-78) p. 10 EE.
- Cooveys Hill, Petersville, N.B., folding of Silurian rocks, succession of beds, (75-76) p. 358.
- COOK, CAPTAIN, voyage of, in Northern Pacific, note on, (78-79) p. 9 B.
- Cooke mine, Marmora, Ont., statistics for three years, (71-72) p. 147.
- or Williams mine, assay of gold ores, (71-72) p. 141.
- trial of Forbes quartz crusher, Dunstan's furnace, (71-72) p. 134.
- character of vein, mill used, (71-72) p. 133.
- Cooks Corners, St. Armand, Que., lower black shales of Quebec Group cut by metaliferous dyke, (1863) p. 240.
- galena in vein observed at, (1863) p. 516.
- Cooks Bay, Lake Simcoe, Ont., note on boulders on, (1863) p. 895.
- Cooks Brook, Acadia iron mines, N.S., analysis of iron ores, (72-73) p. 31.
- level on vein of hematite, (73-74) p. 215.
- analysis of specular ore from, (73-74) p. 224.
- to Martins Brook, N.S., ore deposits, workings, yield, (72-73) pp. 24-25.
- Cooks Point, Lake Nipigon, Ont., limestones overlain by trap, (66-69) E. p. 341, F. p. 377.
- constituents of limestone of, (66-69) E. p. 362, F. p. 401.
- Coolavee, N.S., Lower Carboniferous rocks of, (82-84) p. 41 H.
- Coot Hill, Nerepis River, N.B., iron ore reported by Dr. Gesner, (72-73) p. 227.
- deposit of iron ore referred to, (73-74) p. 229.
- Copetown Station, Ont., clays and sands of, (1863) p. 903.
- Copper, in amygdulæ, Pewabic lode, Michigan, (63-66) p. 153.
- Grand Portage mine, (63-66) p. 160.
- general note on distribution of, in Huronian, (1863) p. 59.
- in diorites, Charlotte Co., N.B., (76-77) p. 323.
- in British Columbia, general note on, (76-77) p. 132.
- grey, percentage of copper in, (1863) p. 692.
- Copper, native, Battle Islands, Lake Superior, (1863) p. 707.
- found in Black River mine, St. Flavien, Que., and at St. Henry and Point Lévis, (1863) p. 720.
- Copper Creek, B.C., (77-78) p. 115 B.
- known and used by Haida Indians, (78-79) p. 149 B.
- note on occurrence of, on Lake Superior and in Eastern Townships, Que. (1863) p. 515.
- note on mode of occurrence in amygdaloid traps of Lake Superior, (1863) p. 71.
- workings for at Mamainse, Lake Superior, (1863) p. 701.
- in Marmora Tp., Ont., (74-75) p. 162.
- in conglomerates, Michigan, (63-66) p. 157.
- St. Ignace Island, Lake Superior, (1863) p. 706.
- Copper, carbonate of, Burnt Harbour, Lake Superior, (76-77) p. 219.
- red oxyd of, found in shales at Acton, Que., also in Lake Superior rocks, (1863) p. 515.
- Copper Bay, Moresby I., Q.C.Is., description of coast, (78-79) p. 29 B.
- Copper Creek, Kamloops Lake, B.C., Tertiary rocks of vicinity, decomposed serpentines, native copper, (77-78) p. 115 B.
- Copper deposits, origin of, (1863) p. 735.
- at Acton, Que., (63-66) p. 33.
- worked in Bolton Tp., Que., (63-66) p. 35.
- worked in Ely Tp., Que., (63-66) p. 35.
- of Lake Superior, note on origin of, (1863) p. 699.
- compared to Harvey Hill, Que., (63-66) p. 145.

- Copper deposits, of Lake Superior—*Cont.*
indicated by magnetic needle, (63-66) p. 146.
of northern part of New Brunswick, note on, (79-80) p. 44 D.
worked in Stukley Tp., Que., (63-66) p. 34.
of Quebec Group, belong to two periods, (77-78) p. 8 A.
- Copper-glance, percentage of copper in, (1863) p. 692.
assay of, from Crow Point, N.S., (76-77) p. 450.
from Silver City, near Laggan, C.P.R., (82-84) p. 3 MM.
from Spar Island, Lake Superior, assay for silver, (78-79) p. 19 H.
- Copper Island, Big Stone Bay, Lake of the Woods, vein of quartz on, (82-84) p. 10 K.
assay of ore from, (82-84) p. 12 MM.
- Copper Island, Shuswap Lake, the beds of Div. C exposed on, (77-78) p. 98 B.
line of disturbance, (77-78) p. 100 B.
- Copper Islands, Skincuttle Inlet, Q.C.Is., general description of, (78-79) p. 18 B.
the rocks of, copper ore, (78-79) p. 52 B.
- Copper localities, list of, referred to, (63-66) p. 43.
in Eastern Townships, Que., list of, (63-66) pp. 295-321.
in Melbourne Tp., Que., referred to, (63-66) p. 38.
- Copper lodes in slates and quartzites of Barford Tp., Que., (1863) p. 437.
- Copper mining in Canada, general note on state of, (1863) p. 735.
- Copper mine at Bathurst, N.B., character of ore, note by Dr. Gesner, (79-80) p. 8 D.
Blue Mts., N.S., felsites of, (77-78) p. 5 F.
description of, abandoned, east of Lake Superior, (63-66) pp. 143-145.
north-west shore, Michipicoten Island, description of, (63-66) p. 143.
at Point aux Mines, Lake Superior, (63-66) p. 144.
at Skincuttle Inlet, Q.C.Is., description of, (78-79) p. 53 B.
in Province of Quebec, notes on, (80-82) pp. 1-3 GG.
Rankin, near Root River, Ont., rocks of, (76-77) p. 212.
- Copper mining, ancient, at Mamainse, Lake Superior, note on, (1863) p. 701.
suggestions as to best methods, (63-66) p. 145.
- Copper ores, not common with magnetite, effect on iron, (73-74) p. 200.
forms of, found in Canada, description of localities, plan of Harvey Hill mine, Que., (1863) pp. 692-738.
of upper part of Upper Copper-bearing rocks, general note on mode of occurrence, (1863) p. 75.
of Huronian Formation, notes on, (1863) p. 694.
of the Quebec Group, description of localities, (1863) pp. 711-735.
- Copper ores—*Cont.*
in the Silley division, (63-66) p. 37.
variegated, percentage of copper in, (1863) p. 692.
vitreous, percentage of copper in, (1863) p. 692.
yellow, chalcopryrite, percentage of copper in, (1863) p. 692.
- Copper, ores of, localities:—
Ascot, Ham and Garthby Tps., Que., (1863) p. 732-733.
Acton Vale, Que., analyses, (1863) p. 717.
Adams Island, Passamaguddy Bay, N.B., variegated, reported also on Simpsons Island, (70-71) p. 89.
Bachewanung Bay, Lake Superior, (1863) p. 700.
Bastard Tp., Ont., note on, (1863) p. 692.
Bap of Fundy, note on prospects for mining on, (82-84) p. 20 L.
Begley mine, Lake Superior, (63-66) p. 122.
Black River, Lake Superior, (1863) p. 705.
Black River, Algoma, found in schists of, (70-71) p. 348.
Bathurst, N.B., in rocks of Bonaventure Formation, (1863) p. 451.
Brigand Brook, Skye Mt., N.S., in vein, (82-84) p. 33 H.
Brome Tp., Que., (63-66) p. 38.
Bruce mines, Lake Huron, Ont., note on, (1863) p. 694.
Burnt Point and Boulacac Harbour, N.S., (76-77) p. 406.
Cameron lode, Charlotte Co., N.B., (76-77) p. 344.
Cape Breton Island, N.S., (76-77) p. 450-452.
notes on occurrences, (82-84) pp. 94-96 H.
Cape Breton Co., N.S., note on, (77-78) p. 29 F.
Chester, Halifax, Inverness and Leeds Tps., Que., in magnesian belt, (1863) p. 256.
Copper Islands, Skincuttle Inlet, Q.C.Is., in veins, (78-79) p. 52 B.
Coxheath copper mine, N.S., assays of, (82-84) p. 96 H.
Eastern Townships, Que., general description of localities and mode of occurrence, (1863) pp. 711-735.
Echo Lake, Algoma, analysis of, (78-79) p. 16 H.
Ely Tp., Shefford, Que., assay of, (79-80) p. 17 H.
Elzevir, Kaladar and Barrie Tps., Ont., (74-75) p. 161.
Escott Tp., Ont., notes on, (1863) p. 693.
on Fraser Lake, B.C., traces of, (76-77) p. 84.
Gabarus Bay, N.S., note on deposit, (75-76) p. 415.
Goulais Bay, Lake Superior, (63-66) p. 131.
Great Capucin River, Que., in shales below Silley at mouth of, (1863) p. 263.
Harvey Hill mine, Que., arsenical, note on, (1863) p. 711.
in beds, (1863) p. 725.
shipments of, 1858 to 1862, (1863) p. 729.
Hastings, Ont., localities and mode of occurrence, (63-66) p. 106.

Copper, ores of, localities—*Cont.*

- Howe Sound, B.C., assay of, (75-76) p. 432.
 Johnston mine, Charlotte Co., N.B., (76-77) p. 343.
 Lake Huron, notes on localities on the north shore of, (1863) pp. 694-698.
 Lanoraie, Que., note on, (1863) p. 693.
 Leeds Tp., Que., description of veins at Harvey Hill, (1863) pp. 724-725.
 Levant Tp., Lanark, Ont., (70-71) p. 314.
 note on, (74-75) pp. 161-162.
 Maminse, Lake Superior, with notes on early and ancient mining works, (1863) pp. 700-701.
 Maminse Bay, north of, veins explored for, (63-66) p. 144.
 Mica Bay, Lake Superior, note on, (1863) p. 702.
 Michipicoten Island, analyses of arsenical ores from, (1863) p. 506.
 note on deposits, (1863) pp. 703-704.
 Michipicoten Bay, Lake Superior, (1863) p. 704.
 Morris Lake, N.B., sulphuret, (76-77) p. 329.
 Morrison Harbour, West Bay, N.S., in felsite of brook near, (79-80) p. 6 F.
 New Brunswick, note on former workings on the Dorchester deposit, (77-78) p. 12D.
 Nipigon district, localities reported, (66-69) E. p. 360, F. p. 398.
 North Burgess Tp., Ont., notes on, (1863) p. 692.
 indications of iron, (73-74) p. 128.
 Olive lode, Charlotte Co., N.B., (76-77) pp. 343-344.
 Ontario and Quebec, notes on occurrences in, (1863) pp. 514-516.
 Orford Tp., Que., (63-66) p. 39.
 Otter Head, Lake Superior, (1863) pp. 704-705.
 Paint Mountain, Lake Abatogomaw, Que., (70-71) p. 295.
 Patton and Thompson Tps. and Macomong Lake, Ont., (1863) p. 843.
 Pointe aux Mines, Lake Superior, note on, (1863) p. 702.
 Polsons Lake, N.S., analysis of, (76-77) p. 476.
 Princes mine, Lake Superior, (1863) p. 707.
 Richmond and Inverness Cos., N.S., (79-80) p. 123 F.
 St. Flavien, Quebec, in diorite, (1863) p. 242.
 St. Ignace Island, Lake Superior, (1863) p. 706.
 Shebandowan Lake, Ont., results of assays, (72-73) p. 95.
 Shipton anticline, in altered rocks, (1863) p. 246.
 Skincuttle Inlet, Q.C.Is., Pooles shaft, analysis of, (78-79) p. 16 H.
 Southern British Columbia, notes on occurrences of, (77-78) p. 162 B.
 Southern New Brunswick, localities of occurrence, (70-71) pp. 224-225.
 Spar Island, Lake Superior, analysis of, (78-79) p. 16 H.
 Spences Bridge, North Thompson River, B.C., assay of, (75-76) p. 5.

Copper, ores of, localities—*Cont.*

- Stewart Brook, north-east of Margaree River, N.S., (82-84) p. 24 H.
 Suffield mine, assay of roasted ore, argentiferous, (76-77) p. 481.
 Sutton Tp., Que., (1863) p. 721, and (63-66) p. 37.
 Terrace Bay, Lake Superior, (1863) p. 706.
 Thunder Bay, mining lot C, (66-69) E. p. 324, F. p. 357.
 Upper Ottawa, Quinze Lake, (72-73) p. 131.
 Wallace and Wellington mines, Lake Huron, note on, (1863) p. 695.
 Wendover Tp., Que., note on, (1863) p. 243.
 Westmoreland and Albert Cos., N.B., notes on, (80-82) p. 23 D.
 Whyccomagh, Inverness Co., N.S., assay of, (79-80) p. 17 H.
 Woodward mine, Charlotte Co., N.B., (76-77) p. 337.
 Woodstock, N.B., occurrence of sulphuret on St. John River, (66-69) E. p. 206, F. p. 229.
 York and Carleton Cos., N.B., and Bulls Creek, (82-84) p. 28 G.
 Copper ore statistics, for New Brunswick, 1869-1870, (71-72) p. 151.
 for Newfoundland for 1869-71, (71-72) p. 153.
 for Ontario, 1869-71, p. 147, (71-72), p. 147.
 for Quebec for 1869-71, (71-72) p. 148.
 Copper ore and native copper, Kamloops Lake, B.C. Copper Creek, (77-78) p. 116 B.
 Copper and galena ores reported on Lake of the Woods, (80-82) p. 15 C.
 and gold ores noted on localities in Lanark and adjacent townships, Ont., (74-75) pp. 160-162.
 and lead ores reported on Deadman Island, Labrador, (82-84) p. 13 DD.
 and nickel ores of veins in Huronian, general note on, (1863) p. 59.
 Copper-bearing conglomerate, Portage Lake, Michigan, (63-66) p. 157.
 Copper-bearing formations of the Quebec Group, (63-66) p. 31.
 Copper-bearing rocks, general note on veins of, (63-66) p. 145.
 Black Sturgeon River and Lake, Lake Superior, (66-69) E. p. 335, F. p. 369.
 limits of, north of Fort William, (66-69) E. p. 326, F. p. 359.
 Lake Superior, Upper Series, description and distribution of, (1863) pp. 67-86.
 Levant Tp., Ont., (74-75) pp. 133-134.
 discovered in Mistassini region, (70-71) p. 8.
 of Portage Lake, Mich., (63-66) pp. 149-164.
 of the Quebec Group, probable age of, (77-78) p. 8 A.
 Southern New Brunswick, correlations made in 1871, (71-72) p. 143.
 in Shefford, Stukely, Ely, Melbourne, Cleveland and Shipton Tps., Que., (1863) p. 247.
 Copper-pyrites, composition of, (1863) p. 692.
 note on occurrence of, in Ontario and Quebec, (1863) p. 514.

Copper-pyrites—*Cont.*

- purple, percentage of copper in, (1863) p. 692.
- in veins in diorite, Adding'on Road, Ont., (72-73) p. 152.
- Burnt Harbour, Lake Superior, (76-77) p. 219.
- relation of lodes in Charlotte Co., N.B., (76-77) p. 344.
- of traps of Cheticamp and Cap Rouge, N.S., referred to, (80-82) p. 8.
- in veins at Crow Harbour, N.B., (70-71) p. 93.
- in Laurentian, in Escott Tp., Ont., (63-66) p. 218.
- of Gillis Brook, N.S., (76-77) p. 436.
- in metamorphic rocks of Grantmire Brook, N.S., (75-76) p. 374.
- in felsites of Green Island, Richmond Co., N.S., (79-80) p. 5 F.
- veins of, at Gros Cap, Lake Superior, (76-77) p. 220.
- in Jerome Brook, Inverness Co., N.S., (82-84) p. 22 H.
- in quartzites at London Settlement, Queens Co., N.B., (70-71) p. 73.
- Long Is. and Richmond Gulf, Hudson Bay, (77-78) p. 20 C.
- in rocks on Mattagami River, Ont., (75-76) p. 312.
- found on Mattawagaming Lake, Ont., (80-82) p. 4 C.
- Palmerston Tp., Ont., (74-75) p. 161.
- of White Granite Hills of Cape Breton Co., N.S., (77-78) p. 6 F.
- and copper ores from Rocky Mountains, assays for gold and silver, (80-82) p. 15 H.
- from Sherbrooke, Que., assay for silver, (77-78) p. 52 G.
- from Spanish River, Ont., assay for silver, (79-80) p. 19 H.
- Stobies slate location near Echo Lake, Ont., (76-77) p. 210.
- in shale near Three Island Cove, N.S., (77-78) p. 18 F.
- from Victoria Co., N.S., assay of, (82-84) p. 3 MM.
- Victoria mine, Garden River, Ont., (76-77) p. 212.
- Copper smelting, notes on application of various processes to Canadian ore, (1863) p. 736.
- Copperas, manufacture of, from pyrites, outline of process, (1863) p. 747.
- "Coppers," used by Haida Indians, conventional value, cut showing shape of, (78-79) p. 135 B.
- Coprolites, general note on composition of, (1863) p. 461.
- composition of, notes on deposits of, in Canada, (1863) p. 758.
- in Chazy Formation, at Allumette Rapids, Ottawa, (1863) p. 125.
- from Allumette Island and Hawkesbury, Ont., analyses of, (1863) p. 462.
- Lower Silurian of East Bay, N.S., (76-77) p. 433.

Coprolites—*Cont.*

- from Rivière Ouelle, Que., analysis of, (76-77) p. 434.
- Coquihalla Bridge to Unknown Creek, diagrammatic section, (77-78) facing p. 174 B.
- Coquihalla River, B.C., gold on, (76-77) p. 142 and (77-78) p. 156 B.
- description of upper part of, (77-78) p. 40.
- view in valley, (77-78) facing p. 40.
- description of lower part, plants of coast flora, (77-78) p. 41 B.
- crystalline rocks on trail, (77-78) p. 70 B.
- belt of Triassic rocks, (*Monotis* shales), (77-78) p. 71 B.
- elevation of terrace at summit to Coldwater River, (77-78) p. 148.
- diagrammatic section from Ladners Creek to Unknown Creek, (77-78) facing p. 174 B.
- Coracite from Mamainse, Lake Superior, analysis of, (1863) p. 504.
- Corbetts Mill, Sumner Hill Brook, N.B., fossiliferous limestone at, (72-73) p. 189.
- Cord, size and contents of French-Canadian, (73-74) p. 247.
- Cordaites shales of New Brunswick, thickness, position in series, (70-71) p. 170.
- exposed at Mount Prospect, St. John, N.B., (70-71) p. 174.
- between Little River and Mispic, N.B., on coast, fossils, (70-71) p. 174.
- summary of beds of, characteristic fossils, (70-71) p. 175.
- exposed on north side of Lepreau Basin, (70-71) p. 176.
- equivalent to pale argillite series, Devonian, (74-75) p. 84.
- note on exposures of, in Southern New Brunswick, on the Telegraph road from St. Andrews to Dipper Harbour, (78-79) p. 12 D.
- Cordillera, porphyritic formation of the great ranges in America, estimate of thickness, (76-77) p. 91.
- Coregonus Arctedi*, found at mouth of Nelson and Hayes rivers, (78-79) p. 6 C.
- Corey's limestone, near Phillipsburgh, Que., division C, (1863) p. 849.
- Cork Settlement, N.B., list of fossil plants from, (72-73) p. 207.
- Cormorant Bay, Haro Strait, B.C., crystalline limestones of, (71-72) p. 90.
- cliff of drift and stratified sand, (71-72) p. 94.
- Cormorant Is., near Vancouver I., bedded deposits of clay, (78-79) p. 98 B.
- Cormorant Point, Anticosti, Que., fossils in rocks at, (1863) pp. 305-306.
- Corney Brook, Inverness Co., N.B., pre-Cambrian rocks of, (82-84) p. 21 H.
- Corniferous Formation, in Canada, general description of deposit, distribution, thickness, fossils, etc., (1863) pp. 361-379.
- includes Onondaga limestone, (1863) p. 362.
- wood-cuts of typical fossils of, (1863) pp. 362-376.

- Corniferous Formation—Cont.**
 list of fossils found in Haldimand and Norfolk Cos., Ont., (1863) pp. 369-370.
 petroleum of, general note on occurrence in, (1863) p. 379.
 petroleum in corals of, (1863) p. 522.
 mineral springs arising from rocks of, (1863) p. 561.
 note on rocks forming mass of, (1863) p. 627.
 oil wells in, Estell Co., Kentucky, (63-66) p. 241.
 distribution in Canada and thickness of, (63-66) p. 241.
 wanting in Tilsonburg wells, (63-66) p. 250.
 examples of, oil-bearing character of, (63-66) p. 254.
 undulations in Western Ontario, (1863) p. 379, and (63-66) p. 258.
 and Onondaga Formation, borings through, (63-66) p. 268.
 general résumé, (66-69) E. p. 216, F. p. 239.
 in Ontario, (76-77) p. 241.
- Corniferous limestones not dolomitic, (1863) p. 366.**
- Corniferous and Onondaga limestones, thickness of, (66-69) E. p. 218, F. p. 240.**
- Cornus florida*, Linn., note on range of, in Canada, (79-80) p. 55 C.**
- Cornus Nuttallii*, Aud., occurrence of, in British Columbia, (79-80) p. 177 B.**
- Cornwall's ranch, on Fraser River, B.C., interesting plants found at, (75-76) pp. 123-124.**
- Cornwall Tp., Ont., the Chazy Formation exposed in, (1863) pp. 126-127.**
 Trenton Group exposed in, (1863) p. 172.
 note on building stone in Trenton Group, (1863) p. 816.
- Cornwall, Ont., note on black marble of, (1863) p. 827.**
- Correlation, of Cretaceous subdivisions, note on, to accompany comparative table, *see pages* 128-129 B, (79-80) p. 131 B.**
 of Gaspé Series, note on, (82-84) p. 23 E.
- Correspondence relative to exploration of Q.C.Is. anthracite deposits, (72-73) pp. 84-86.**
- Corrugation in coal seams, Victoria mines, N.S., (72-73) p. 254.**
- Corrugated limestone beds in Gaspé limestones at Cape Gaspé, wood-cut showing, (1863) p. 392.**
- Corrugated veins or leads, examples of, in Nova Scotia, (70-71) p. 266.**
- Corsican forge, note on consumption of charcoal, (66-69) E. p. 271, F. p. 300.**
- Corundum, occurrences of, in Burgess Tp., Ont., noted, (1863) p. 499.**
 mode of occurrence in Laurentian, (63-66) p. 213.
- Corunna, Ont., well at, section, (63-66) p. 243.**
- Coscinium proavium*, Eichwald, wood-cut of, (1863) p. 158.**
- Cossitt's pits, near Sydney, N.S., notes by J.W. Dawson on plant remains, (74-75) pp. 191-192.**
- Cossitt road, N.S., Laurentian rocks of, (76-77) p. 414.**
- Cost, of production of coal in New Brunswick, (72-73) p. 227.**
 of raising coal, Cape Breton mines, N.S., (72-73) p. 287.
 of hydraulic working of placer mines, (63-66) p. 89.
 of labour, mining, shipping and smelting of iron ores, (73-74) pp. 242-259.
 of mining apatite in North Burgess, Ont., (74-75) p. 109.
 of mining apatite at Adam's mine, North Burgess, Ont., (82-84) p. 8 L.
 of making salt, comparisons, market prices, (66-69) E. p. 241, F. p. 267.
 of carriage of salt to Chicago, (74-75) p. 268.
 of fuel in salt making industry, comparative, (74-75) pp. 280-284.
 of smelting at Marmora, Ont. (63-66) p. 108.
- COSTE, E., examinations of locations on Lake of the Woods, summary of work, (82-84) p. 6.**
 report on gold mines of Lake of the Woods, (82-84) pp. 5-22 K.
- Costume of Haida Indians of Q.C.Is., (78-79) pp. 106-109 B.**
- Côte St. André, Petite Nation Seig, Que., great Wentworth dyke traced to, (1863) p. 840.**
- Côte St. Charles, Vaudreuil, Que., bog ore deposits of, reference to analyses of, (1863) p. 683.**
 analysis of bog ore, (73-74) p. 237.
 character of bog iron ore, (73-74) p. 256.
 analysis of limonite from, (1863) p. 511.
- Côte St. Eustache, Mille Iles, Que., great Wentworth dyke traced eastward to, (1863) p. 840.**
- Côte St. Joachim, Que., exposures of Trenton Formation, (1863) p. 150.**
- Côte Ste. Louis, Que., the Chazy Formation at quarries, (1863) p. 133.**
- Côte des Neiges, Montreal, section of ancient sea beach, (1863) p. 918.**
- Coteau Baron, Montreal, Que., list of post-Tertiary fossils from, (1863) pp. 926-928.**
- Coteau de Missouri, character of country on summit of, (73-74) p. 77.**
 rocks of summit of, classed as Tertiary, (73-74) p. 84.
 note on drift deposit of, (79-80) p. 142 B.
- Cottonwood, of British Columbia, note on distribution of, (79-80) p. 177 B.**
 occurrence of, on Assiniboine River, noted, (79-80) p. 56 C.
- Couchiching Lake, Ont., the Trenton escarpment at, (1863) pp. 191-192.**
 analysis of Black River limestone, thickness of Birdseye and Black River Formations on, (1863) p. 193.

- Couchon River, Lake St. John, Que., note on sand hills of, (82-84) p. 18 D.
- Coulées of third prairie steppe, N.W.T., description of, (74-75) p. 45.
of great size and depth on plains of N.W.T., probable origin of, (82-84) p. 150 C.
- Coulonge Lake, Que., fish remains found in Leda clays of, (1863) p. 917.
- Coulonge River, Que., syenites on, (76-77) p. 280.
limestones on, (76-77) p. 282.
gneiss on, (76-77) p. 284.
- Courtney Bay, St. John Harbour, N.B., exposures of Huronian, (70-71) p. 61.
St. John Group fault, associated rocks, (70-71) p. 137.
- Courtenay River, Comox, B.C., survey of, (72-73) p. 35.
- Coverdale River, Albert Co., N.B., Lower Carboniferous rocks of, (70-71) p. 209.
occurrence of copper ore on, (80-82) p. 24 D.
- Cow Bay, N.S., section of Millstone Grit at North Head, (74-75) pp. 181-183.
discovery of coal seam 8 feet thick at, (74-75) p. 189.
section of strata on north side, Mill Brook to North Head, (74-75) p. 206.
section of strata on south side of coal basin, (74-75) pp. 207-208.
section of Ross seam at head of, (74-75) p. 218.
diagrammatic sections of measures, Long Beach to Black Brook, (74-75) facing p. 266.
- Cow Bay anticline, extension of, in Cape Breton, N.S., (76-77) p. 415.
- Cow Bay coal basin, N.S., section of strata, (74-75) pp. 205-210.
collieries in, (74-75) p. 211.
- Cow Head, west coast Newfoundland, limestone conglomerate of, (1863) p. 292.
fossils found at, (1863) p. 877.
- Cowan iron mines, Lanark, Ont., statistics for 1871, (71-72) p. 147.
- Cowan's location, Opinicon Lake, Ont., facility for shipment from, (72-73) p. 173.
- Cowan's phosphate location in Bedford Tp., Ont., description of beds, extent of workings, (71-72) p. 129.
- Cowan's mine, lots 11 and 12, R. VII., North Burgess, Ont., workings at, veins of apatite, (70-71) p. 319.
cost of mining at, (74-75) p. 109.
- Cowgitz, Queen Charlotte Islands, exposures of coal and sections at, (72-73) pp. 57-62.
continuity of coal seams at, (72-73) p. 60.
buildings of Q.C.Is. Coal Mining Co., (72-73) p. 61.
anthracite coal at, (76-77) p. 119.
- Cowgitz coal area., Q.C.Is., evidence of one coal seam only in formation, (78-79) pp. 74-75 B.
- Cowgitz coal mine, Skidegate Inlet, Q.C.Is. passage beds at base of division C, holding anthracite coal, (78-79) p. 67 B.
general description of, with plans, discussion of quality and value of coal, (78-79) pp. 71-77 B.
- Cowgitz coal seam, Skidegate, irregularity of, conditions of deposit, (78-79) p. 75 B.
- Cowichen District, B.C., assays of galena from Sterling mine, gold and silver, (79-80) p. 20 H.
- Cowitchen coal area, report by Jas. Richardson on, (76-77) pp. 187-188.
position and boundaries of, (76-77) p. 170-171.
map of, scale 4 m. = 1 in. accompanying, (76-77)
- Cox Hill, N.S., thickness of Sydney main seam at, (74-75) p. 236.
exploratory work at, branch line of railway to, (74-75) p. 239.
- Coxheath, N.S., fire-clay of, (76-77) p. 456.
- Coxheath anticline, Lower Silurian strata on, (75-76) p. 393, and (76-77) p. 435.
- Coxheath copper mine, N.S., condition of, in 1881, (80-82) p. 8.
note on developments at, buildings, character of ore, (82-84) pp. 95-96.
assays of ore from, (82-86) p. 96 H.
- Coxheath felsites, note on probable age of, (79-80) p. 12 F.
- Coxheath Hills, N.S., metamorphic rocks on Morrison Brook, (73-74) p. 173.
height of, (75-76) p. 370.
felsites, diorites, and conglomerates of, (75-76) pp. 372-374.
rocks of, (76-77) p. 404.
Laurentian rocks of, (76-77) pp. 414-415.
- Coxheath Hills copper mine, assay of mispickel for gold and silver, (78-79) p. 17 H.
- Coxheath road, N.S., crystalline limestone on, (76-77) p. 427.
Lower Silurian rocks of, (76-77) p. 436.
- Coxs Brook, Charlotte Co., N.B., upper or Pale Argillite Series of pre-Carboniferous, fossils of, (70-71) p. 198.
- Coy's plaster quarry, Paris, Ont., description of deposits, (1863) p. 350.
- Crab-apple of British Columbia, note on occurrence of, (79-80) p. 176 B.
- Crab Bay, Gardner Channel, B.C., mica-schists of, (74-75) p. 79.
- Crafts Cove, Washademoak Lake, N.B., Lower Carboniferous rocks of, (72-73) pp. 191-192.
- Craigleith, Ont., ridge of sand 80 feet above Lake Huron, (1863) p. 911.
- Craignish, Inverness Co., N.S., felsites at, with varieties found on road westward, (79-80) p. 11-12 F.
small outliers of crystalline limestone noted, (79-80) p. 25 F.
greenish shales of, probably Carboniferous, (79-80) p. 102 F.

- Craignish felsites, Inverness Co., N.S., general note and descriptions of localities and exposures, (79-80) pp. 10-14 F.
- Craignish Hills, Inverness Co., N.S., on the pre-Cambrian felsites of, (79-80) pp. 10-14 F. the crystalline limestone outliers of the, (79-80) pp. 24-32 F.
- pre-Cambrian rocks of Skye Mt., (82-84) p. 7 H.
- Crammond Islands, West Bay, N.S., character of, (79-80) p. 69 F.
- Cranberry Head, Yarmouth, N.S., olive green slates and sandstones cut by diorite dyke, (70-71) p. 271.
- succession of beds along coast, (70-71) p. 271.
- to Stubbart Point, section of Coal Measures, (74-75) pp. 231-234.
- Cranberry Head coal seams, upper and lower, sections of, (74-75) p. 231.
- Stigmara* overlying, (74-75) p. 235.
- represented by Point Aconi seam, (74-75) p. 243.
- Cranberry Lake, B.C., terraces around, soil, height of, (71-72) p. 39.
- Cranberry Lake, Richmond Co., N.S., Carboniferous rocks of, similar to Millstone Grit, (79-80) p. 65 F.
- fine clean sand at, (79-80) p. 112 F.
- Cranberry Lake, York Co., N.B., section of eruptive Lower Carboniferous, (66-69) E. p. 180, F. p. 198.
- section of felsites on east side of, (72-73) p. 184.
- description of basin, surface deposits, (82-84) pp. 17-18 GG.
- Cranbourne, Que., green epidotic rocks at, (1863) p. 256.
- Cranbourne Tp., Que., red slate, red and green sandstone in, (1863) p. 254.
- copper-bearing rocks extend through, (1863) p. 731.
- Crandall Road, Inverness Co., N.S., Carboniferous rocks exposed on, (79-80) p. 93 F.
- Crandall seam, near Low Point, N.S., section on coast, (74-75) p. 227.
- Crane Brook, George River, N.S., section of Laurentian rocks in, (75-76) pp. 386-387.
- Crane Cove, N.S., crystalline limestones at, (76-77) pp. 427, 456.
- Crane Island, St. Lawrence River, Lévis and Lauzon shales, unconformable on Potsdam, (66-69) E. p. 131, F. p. 146.
- Cran-serré, Saguenay River, Que., labradorite area, (82-84) p. 7 D.
- Crapaud, P.E.I., character of country, attitude of beds of exposed rock, (82-84) p. 15 E.
- Cratægus coccinea*, Linn., note on northern limit of in Canada, (79-80) p. 54 C.
- Cratægus crus-galli*, Linn., note on northern limit in Canada, (79-80) p. 54 C.
- Cratægus tomentosa*, Linn., note on occurrence of in Canada, (79-80) p. 55 C.
- Crawley Brook, Sydney Harbour, N.S., section of Carboniferous limestone, (75-76) pp. 402-403.
- Crawley seam, equivalent of Sydney main seam, sections of, (74-75) p. 243.
- Creation myth, of the Haida Indians, (78-79) p. 149 B.
- Credit River, Ont., exposures of Hudson River referred to, (1863) p. 213.
- Caledon Tp., indentation in outline of Clinton Formation on, (1863) p. 315.
- exposures of Niagara limestone at Belfountain, (1863) p. 327.
- Cree Lake, map of, obtained by R. Bell from W. Franklyn, (80-82) p. 15.
- Creighton Island, Madame Is., N.S., Devonian rocks of, (79-80) p. 36 F.
- Crescent Inlet, Darwin Sound, Q.C.Is., description of, mountain near, (78-79) p. 24 B.
- rocks of, (78-79) p. 58 B.
- latitude observation at, (78-79) p. 234 B.
- Cretaceous System, of British Columbia, compared with California, Nebraska and England, (72-73) p. 71.
- evidence of land barrier between east and west areas, (72-73) p. 71.
- comparative table of subdivisions of, (79-80) pp. 128-129 B.
- need of borings to determine thickness of, in central part of continent, (73-74) p. 53.
- Cretaceous and Tertiary Groups, as found on the Missouri River, thickness and characters of, (79-80) p. 14 A.
- Cretaceous area, behind Boston Bar, B.C., thickness of series, fossils, (77-78) pp. 107-108 B.
- north from Lytton, B.C., (77-78) p. 109 B.
- east of Skagit River, B.C., note on, (82-84) p. 16 B.
- on Skagit River, B.C., description of, section, fossils, (77-78) pp. 105-107 B.
- Cretaceous basin of the Peace River, width and probable extent of, (79-80) p. 130 B.
- Cretaceous outlier, at Huston Inlet, Q.C.Is., (78-79) p. 54 B.
- on Lake Is., coast of British Columbia, Millbank Sound, (74-75) p. 76.
- Cretaceous trough, extending from Cape Mudge to Victoria, B.C., (71-72) p. 76.
- Cretaceous coal measures of Vancouver Island, note on, (76-77) p. 121.
- Cretaceous coal-bearing rocks of Queen Charlotte Islands, (78-79) pp. 63-84 B.
- Richardson's subdivisions of, additional divisions by G. M. Dawson, (78-79) pp. 63-64 B.
- in Skidegate Inlet, estimate of thickness and note on faults in, (78-79) p. 71 B.
- Cretaceous fossils, of impure limestones of Departure Bay, B.C., (71-72) p. 82.
- from lower sandstones of Peace River district, (79-80) pp. 119-120 B.

Cretaceous fossils—*Cont.*

- from Peace River, notes by J. F. Whiteaves, (75-76) p. 96.
 from Vancouver I., collected by Jas. Richardson, notes by J. F. Whiteaves, (73-74) pp. 260-268.
 reported by H. Y. Hind, on Souris River, Man., (73-74) p. 83.
- Cretaceous plants, from Vancouver and Hornby Is., (72-73) p. 71
 from Peace River country, notes by J. W. Dawson, (79-80) pp. 120-122 B.
- Cretaceous limestones of Swan River and Thunder Hill, Man., notes by G. M. Dawson, (74-75) pp. 66-67.
- Cretaceous rocks, conditions of deposition of, (79-80) pp. 133-134 B.
 Athabasca River, section on, (82-84) p. 16 CC.
 Alberta, conditions of deposition, (82-84) p. 118 C.
 Babine Lake, B.C., note on, (79-80) p. 106 B.
 British Columbia, interior of, correlation of beds. composition of series, extent of Cretaceous sea, thickness of Jackass Mountain Group, (77-78) pp. 167-169 B.
 British Columbia, northern part, seen on Skeena River, note on horizon of and coal in, (79-80) pp. 104-106 B.
 Cumsheewa Inlet and coast of B.C., northward, (78-79) pp. 77-82 B.
 of disturbed belt, Alta., diagrammatic sections of, (82-84) facing p. 106 C.
 Fraser River, B.C., evidence of, in vicinity of mouth of, (82-84) p. 10 B.
 Graham and North Islands, Q.C.Is., northern extremity of, (78-79) pp. 83-84 B.
 Pacific Coast, notes by E. Billings, (72-73) pp. 71-75.
 Peace River district, subdivisions of, (79-80) p. 115 B.
 of the plains, N.W.T., subdivisions of, by Dr. Hector, (73-74) p. 51.
 of eastern part of plains, without coal, (79-80) p. 13 A.
 Pine River, B.C., (79-80) pp. 113-120 B.
 Riding Mt., Duck Mt., etc., Man., note on exposures found by H. Y. Hind, (73-74) p. 83.
 Smoky River, N.W.T., thickness of subdivisions of, (79-80) p. 125 B.
 Swan River Valley, Man., and Porcupine Mts., (74-75) pp. 64-67.
 Swan River, Man., thickness of observed sections, common fossils of, (74-75) p. 65.
 Tatlayoco Lake and Nazco River, B.C., the Jackass Mountain Group, (75-76) pp. 253-255.
 Thompson River, B.C., near mouth of Bonaparte River, (77-78) p. 111 B.
 Thunder Hill, Man., shales exposed on, (74-75) p. 59.
 Vancouver I., note on age of, correlation, (73-74) p. 265.
 Waterton River, Alta., the shales of upper part of, (82-84) p. 65 C.

Cretaceous rocks—*Cont.*

- Wood Mountain, Assa., south of, dip of beds and general description of, (79-80) pp. 36-37, 39 A.
- Cretaceous and Laramie rocks in Rocky Mountains, (82-84) pp. 108-111 C.
 disturbed belt on Upper Belly River, sections, (82-84) pp. 60-62 C.
- Cretaceous overlap, Cumsheewa Inlet, Q.C.Is., diagrammatic sections, (78-79) pp. 79-81 B.
- Crichton, E. O., report on Admiralty trials of Little Glace Bay coal, (72-73) p. 260.
- Crid Islands, Richmond Co., N.S., felsites of, (79-80) p. 6 F.
 Devonian conglomerate of, (79-80) p. 37 F.
- Crinoidea of Calciferous Formation, wood-cut of columns, (1863) p. 113.
- Cripp's Hill, Waterford Tp., N.B., synclinal structure, section showing whole of Huronian Series, kinds of rocks exposed, (77-78) p. 16 DD.
- Cristine mine, Norway, description of iron ore, composition, (66-69) E. p. 252, F. p. 279.
- Croft, Prof., partial analysis of mineral water from Chatham, Ont., (63-66) p. 277.
- Croft's mine, Portland East, Ont., openings on apatite deposits at, (82-84) p. 19 J.
- Croft Tp., Ont., crystalline limestone band in, (76-77) p. 205.
- Crooked Falls, New River, Charlotte Co., N.B., red granitoid and Huronian rocks, (70-71) p. 92.
- Crooked Lake, near Missinaibi Lake, Ont., length, shape, (75-76) p. 331.
 Huronian band on, (77-78) p. 3 C.
- Crooked Rapid, Athabasca River, local unconformity in tar sands, (82-84) p. 15 CC.
 highest outcrop of Devonian rocks, (82-84) p. 15 CC.
 description of Devonian rock at, (82-84) p. 16 CC.
 estimated fall, (82-84) p. 16 CC.
- Crooked River, above McLeod Lake, B.C., map showing sketch of survey, accompanying report, (75-76) pp. 28-86.
 general description of, (75-76) p. 65-66.
 Lignite Tertiary rocks of, (75-76) pp. 70-71.
- Crops, grain, etc., Central Plateau, B.C., length of season, (71-72) p. 68.
 grown at Stuart Lake, B.C., (76-77) p. 51.
 at Dunvegan in 1879, (79-80) p. 69 B.
- Crosby Newton's lot, Buckingham, Que., opening for graphite, (73-74) p. 141.
- Cross Lake to Cumberland House, via Pine River, (79-80) pp. 8-10 C.
 list of Coleoptera collected, (80-82) p. 38 C.
- Cross Lake, Red River route, gold-bearing vein reported, (72-73) p. 107.
 mica-schists and red granites of, (73-74) p. 88.
- Cross Lake, Kennebec Tp., Ont., dykes of granites in gneiss, (72-73) p. 149.

- Cross Lake, Nelson River, Huronian rocks of Indian Reserve and other islands, (77-78) p. 19-20 CC.
 Laurentian of north-west shore, compared with Lake of the Woods, (77-78) p. 20 CC.
 completion of survey of, by Molson and Lawford, description of lake and surrounding country, (79-80) pp. 5-6 C.
 list of plants collected in 1880, (79-80) pp. 59-69 C.
 list of Coleoptera collected by R. Bell, (79-80) pp. 73-74 C.
- Cross Lake, Ombabika River, Ont., length of, (71-72) p. 107.
 red granite ridge, diorite, (71-72) p. 108.
- Cross Portage from Landing Lake to Sipi-wesk Lake, Nelson River, (78-79) p. 28 C.
- Cross Point, mouth of Restigouche River, Que., Devonian rocks of, (79-80) p. 12 D.
- Crow Harbour, N.B., quartz lode, copper-pyrites, (70-71) p. 93.
- Crow Island, St. Lawrence River, rocks of, (66-69) E. p. 126, F. p. 140.
- Crow Lake, Marmora, Ont., sulphate of magnesia on surface of rocks near iron-ore bed, (1863) p. 460.
 copper-pyrites in iron-ore beds, (1863) p. 514.
 note on deposits of magnetic iron-ore, (1863) p. 675.
 iron-ore bed crossing, (66-69) E. p. 151, F. p. 168.
 big ore bed, extent of workings, output, men employed, (66-69) E. p. 161, F. p. 178.
- Crow Lake band of crystalline limestones, distribution of, (73-74) p. 105.
 beds of magnetic iron-ore and apatite below, (73-74) p. 106.
 part of group V. of Lanark, (74-75) p. 151.
- Crow Nest Pass, announcement of discovery of basin of Cretaceous rocks, with coal, (80-82) p. 2 B.
 Cretaceous trough, coal seams, (82-84) pp. 109-110 C.
 thickness of coal seam in, (82-84) p. 131 C.
 high terraces in, (82-84) p. 146 C.
- Crow Nest River, rocks of disturbed belt, sections, coal seams, (82-84) pp. 100-102 C.
- Crow Point, N.S., copper ore at, (76-77) pp. 438-450.
 Carboniferous rocks of, (76-77) p. 442.
- Crow River, Hastings Co., Ont., section of basal beds of Trenton Group at Marmora iron-works, (1863) pp. 181-182.
 the upper part of the Trenton Group on, (1863) pp. 186-187.
 characters of the Trenton outcrop on, trap breccia at base, (1863) p. 187.
 granite of, (63-66) p. 92.
- Crow Stand, Little Boggy Creek, Man., character of country near, heights of hills, (74-75) p. 30.
- Crowdia Mountain, Victoria Co., N.S., pre-Cambrian rocks of, (82-84) p. 11 H.
- Crowfoot Creek, Bow River, N.W.T., analysis of lignite from, (79-80) pp. 11-12 H.
 outcrops of coal seams on, note on, (80-82) p. 16 B.
 borings made by C.P.R., note on, analyses of coal, (82-84) pp. 87-88 C.
 coal seam on Lorne trail, (82-84) p. 92 C.
 analysis of lignite from, (82-84) pp. 21-22 M.
- Crowfoot Crossing, Bow River, analysis of coal from, (80-82) p. 17 B.
- Crowfoot Crossing coal seam, character of coal, with analyses, (80-82) p. 17 B.
- Crown Lands Department of Nova Scotia, plans by, (76-77) p. 404.
- Crown Pottery pit, Pictou, N.S., analysis of coal of Richardson seam, (66-69) E. p. 393, F. p. 436.
- Crowning overflow, Lake Superior, unconformity at base, (66-69) E. p. 332, F. p. 366.
 coarser texture at top, finer at bottom, (66-69) E. p. 332, F. p. 366.
 contacts with underlying rocks, (66-69) E. p. 350, F. p. 387.
- Crucibles, plumbago for, required character of, (1863) p. 793.
- Crushed mines, Pictou coal-fields, abandoned, (66-69) E. p. 87, F. p. 97.
- Crushed mine pits to main seam, depths of, extent of workings, Pictou, N.S., (66-69) E. p. 90, F. p. 101.
- Crustacea of the Birdseye and Black River Formations, wood-cuts of trilobites, (1863) pp. 151-153.
 of Calciferous Formation, wood-cuts of, *Bathyrurus amplimarginatus*, *B. conicus* and *B. cybele*, (1863) p. 122.
 of the Chazy Formation, wood-cuts of, (1863) p. 133.
 of Phillipsburgh limestones, wood-cut of, *Amphion Salteri*, (1863) p. 278.
 of Potsdam Group, of Highgate Springs, Vt., wood-cuts of *Conocephalites* and *Bathyrurus*, (1863) p. 286.
 of Quebec Group, wood-cuts of, (1863) pp. 235-239.
 of the Trenton Formation, wood-cuts of, (1863) pp. 184-190.
 of the Utica Formation, wood-cuts of, species of trilobites, (1863) pp. 202-203.
 from Port Burwell, Hudson Strait, list by Prof. S. J. Smith, (82-84) pp. 57-58 DD.
 collected by G. M. Dawson at Vancouver Island and Queen Charlotte Islands, list by Prof. S. J. Smith, (78-79) pp. 206-218 B.
- Crutch Lake, Palmerston Tp., Ont., red gneiss rocks, (72-73) p. 148.
- Cryptohypnus* (?) *terrestris*, Scudder, description of, from Tertiary of Nicola River, B.C., (77-78) p. 180 B.
- Crysler's mills, Finch Tp., Ont., the Trenton exposed at, (1863) p. 173.
- Crystal vein of apatite, lot 4, R. V., North Burgess Tp., Ont., crystals of apatite and mica in, (70-71) p. 317.

- Crystalline diorite, Echo Lake, Ont., (76-77) p. 210.
- Crystalline epidote, Gros Cap, Lake Superior, (76-77) p. 220.
- Crystalline felspar, veins of, Leach Island, Lake Superior, (76-77) p. 218.
- Crystalline feldspar, Echo River, Ont., (76-77) p. 210.
- Crystalline hornblende, Parry Sound, Ont., (76-77) pp. 204-209.
- Rutherford Tp., Ont., (76-77) p. 209.
- Crystalline limestones, distribution of, (76-77) p. 298.
- plumbago in, (76-77) p. 318.
- in Laurentian, show softening by heat and flow structure, (1863) p. 644.
- in Belmont Tp., Ont., (66-69) E. p. 149, F. p. 165.
- Black Lake, North Burgess, Ont., (72-73) p. 167.
- Cape Breton Island, distribution and characters of, (76-77) p. 426.
- Cedar Lake, Petawawa River, Ont., referred to, (76-77) p. 208.
- Craignish Hills, Inverness Co., N.S., (79-80) pp. 24-32 F.
- Frontenac and Lanark, Ont., progress of mapping of, (71-72) p. 120.
- Frontenac, Leeds and Lanark, Ont., five bands, (73-74) pp. 104-106.
- Fortune Lake, Ont., (72-73) p. 146.
- George River, N.S., (75-76) pp. 381-388.
- Georgian Bay, Ont., bands north of, (76-77) pp. 203-208.
- Horne Lake and Mt. Mark, B.C., (72-73) p. 53.
- Horseshoe Bay, Rideau Lake, Ont., (72-73) p. 168.
- Lake Superior, not exposed on east shore of, (63-66) p. 116.
- Lake Talon, Ont., (76-77) p. 207.
- Leeds, Lanark and Frontenac, Ont., (70-71) p. 310.
- Long Lake, North Burgess, Ont., (72-73) p. 167.
- Manicougan River, Que., (66-69) E. p. 306, F. p. 338.
- Meat Cove Brook, N.S., (82-84) p. 20 H.
- North Aspy River, N.S., (82-84) p. 19 H.
- North Burgess Tp., Ont., (63-66) p. 226.
- of pre-Cambrian areas, Northern Cape Breton, (82-84) pp. 33-37 B.
- micaceous, North Hastings, Ont., (63-66) p. 94.
- North Mountain, Inverness, N.S., (79-80) pp. 17-24 F.
- Ottawa River, three conformable bands in Laurentian on, (63-66) p. 12.
- Otty Lake, North Burgess, Ont., (72-73) p. 168.
- Pigeon Lake, Montreal River, (75-76) p. 305.
- Renfrew Co., Ont., (76-77) p. 245.
- Rocky Brook, Inverness Co., N.S., (82-84) p. 26 H.
- Salmon River, Kennebec, Ont., described by A. Murray, (72-73) pp. 155-156.
- Crystalline limestones—*Cont.*
- Vancouver Island, localities from which fossils are obtained, (73-74) pp. 97-98.
- southern end of Vancouver Island, (71-72) pp. 90-93.
- Yale, B.C., possible age of, (71-72) p. 63.
- Crystalline minerals, Roberts Bay, Ont., (76-77) p. 207.
- Crystalline rocks, associated with Palaeozoic strata in gold districts, (70-71) p. 255.
- of Vancouver, Qualicum River to Alberni, (72-73) pp. 52-56.
- Ballinac Channel to Victoria, (71-72) pp. 89-93.
- Crystalline schists, Pointe aux Mines, Lake Superior, (76-77) p. 214.
- and serpentines from Eastern Townships, Que., microscopic structure of, (80-82) pp. 14-19 A.
- Crystalline schist group, of the Quebec Group, (77-78) pp. 7-9 A.
- Crystallites in limestones and chert, examples of, with wood-cuts, (1863) pp. 632-633.
- Crystallization of minerals, researches of Sorby and Daubrée, (63-66) p. 192.
- Crystals, of apatite found at Miller's "Crystal" pit, Templeton, Que., (77-78) p. 15 G.
- apatite and mica in North Burgess Tp., Ont., (73-74) pp. 111-112.
- blue apatite, locality in Wakefield, Que., where found, (80-82) p. 12 GG.
- chabazite found at Bishop pit, Templeton, Que., (77-78) p. 35 G.
- carbonate of iron in limestone, Sutherland River, Pictou, N.S., (73-74) p. 239.
- felspar in felsites of Pringle Brook, Sporting Mountain, Richmond Co., N.S., (79-80) p. 8 F.
- idocrase, Roberts Bay, Ont., (76-77) p. 207.
- labradorite, Partridge Bay, Ont., (76-77) p. 197.
- magnetite in Fitzroy Tp., Ont., (76-77) p. 247.
- olivine, partially altered to serpentine, diagrams, (77-78) p. 42 G.
- phlogophite, diagram showing outlines, (77-78) p. 25 G.
- pyroxene, Hagerman Tp., Ont., (76-77) p. 204.
- Ctenodonta abrupta*, Billings, wood cuts of, (1863) pp. 143, 175.
- Ctenodonta astarteformis*, Salter, wood-cuts of, (1863) p. 175.
- Ctenodonta contracta*, Salter, wood cuts of, (1863) p. 175.
- Ctenodonta dubia*, Hall, wood-cuts of, (1863) p. 175.
- Ctenodonta gibbosa*, Hall, wood-cuts of, (1863) p. 176.
- Ctenodonta Iphigenia*, Billings, wood-cut of, (1863) p. 216.
- Ctenodonta levata*, Hall, wood-cuts of, (1863) p. 175.

- Otenodonta nasuta*, Hall, wood-cuts of, (1863) p. 176.
- Cucullæa*, Sp., note on specimen from Iltasyouco River, B.C., (76-77) p. 134.
- Cullen's area, No. 105, Pictou, N.S., note on limonite deposit of, (73-74) p. 229.
analysis of limonite of, (73-74) p. 234.
- Cultivation of soil in N.W.T., note on extent of land cultivated, (73-74) p. 60.
- Cultivable land along base of Porcupine Hills, Alta., note on soil, (82-84) p. 28 C.
- Culton area, Pictou coal-fields, coal in northern part of, (66-69) E. p. 78, F. p. 87.
adit and bore-hole, (66-69) E. p. 107, F. p. 120.
- Culton seam, Pictou coal-fields, associated beds and fossils, (66-69) E. p. 78, F. p. 87.
correlated with Acadia and Main seams, (66-69) E. p. 78, F. p. 87.
Culton adit, quality of coal, (66-69) E. p. 388, F. p. 431.
- Cumberland Bay, Grand Lake, N.B., ridge east of, probably Lower Carboniferous, (72-73) p. 195.
- Cumberland Brook, Londonderry, N.S., ore deposits, (72-73) pp. 25-26.
north and south veins, analysis of iron ores, (72-73) p. 29.
earthy red hematite being mined, (73-74) p. 217.
analysis of limonite, (73-74) p. 232.
Acadia mines, analysis of limonite from south vein, (73-74) p. 233.
- Cumberland Channel, Bay of Fundy, tidal erosion in, (77-78) p. 20 EE.
- Cumberland coal-fields, N.S., conglomerates of Styles Brook, (73-74) pp. 164-166.
(map published in 1885, accompanies part E., report for 1885.)
gray sandstone series above Coal Measures, (73-74) p. 166.
- Cumberland Co., N.S., notes on Springhill coal, (66-69) E. pp. 443-447, F. pp. 495-500.
record of mines and statistics of coal, 1869-71, (71-72) p. 149.
summary of work by A.R.C. Selwyn, 1872, (72-73) p. 1.
report on Springhill coal-field by S. Barlow, (73-74) pp. 147-160.
report on portion of coal-field of, by W. McQuat, (73-74) pp. 161-170.
continuation of Coal Measures east of Styles Brook, (73-74) pp. 166-168.
great fault on north side of Black River, (73-74) p. 168.
thickness of Upper Carboniferous in central trough of, (73-74) p. 169.
report of progress in surveys of coal-fields by S. Barlow, (75-76) pp. 343-347.
summary of surveys made in 1877-78, (77-78) p. 6.
analysis of bituminous coal from Black River, (78-79) pp. 11-12 H.
- Cumberland Creek, Grand Lake, N.B., dark gray sandstones on, (72-73) p. 213.
ridge of Lower Carboniferous near, (72-73) p. 195.
- Cumberland House, Sask., to Lake Winnipeg, (73-74) p. 44.
to Frog or Trade Portage, A.S. Cochrane's description of new route, (79-80) pp. 11-13 C.
to Reindeer Lake, list of Coleoptera, (80-82) p. 38 C.
- Cumberland Lake, Sask., Silurian rocks reported north of, by Sir John Richardson, (73-74) p. 52.
- Cumberland Tp., Ont., distribution of Trenton in, (1863) pp. 168-169.
anticline in rocks of, thickness of Trenton Group, (1863) p. 169.
outlier of Utica in, referred to, (1863) p. 219.
peat deposits in, noted, (1863) p. 780.
- Cummings Cove, Deer Is., Charlotte Co., N.B., Kingston series of rocks, (70-71) p. 130.
- Cumshewa, Q.C.Is., situation of, (78-79) p. 28 B.
native tobacco said to be cultivated at, (78-79) p. 114 B.
illustration showing houses and carved posts, (78-79) p. 116 B.
Indian village of, description of, (78-79) p. 168 B.
- Cumshewa Harbour or Inlet, Q.C.Is., general description of, (78-79) pp. 27-28 B.
sketch of entrance to, made by Capt. T. Sinclair in 1852, (78-79) p. 13 B.
sketch plan of, on scale of 2 knots = 1 in., (78-79) facing p. 15 B.
limestone and argillite band similar to Limestone Is., with fossils, (78-79) p. 62 B.
intrusive dioritic granite of, (78-79) p. 77 B.
and coast to Skidegate, Cretaceous rocks of, (78-79) pp. 77-82 B.
extent of local glaciers, (78-79) p. 90 B.
- Cumshewa Island, Q.C.Is., description of, (78-79) p. 28 B.
- Cunningham Creek, B.C., gold workings on, (76-77) p. 136.
- Cupellation, description of process, (63-66) p. 81.
- Cupressoxylon*, characters of, from British Columbia, (72-73) p. 67.
- Cupriferous beds of Isle Royal mine, Michigan, (63-66) p. 161.
- Cupriferous diorites of Lake Superior, age of, opinions of Hunt, Pumpelly and Irving, (77-78) p. 9 A.
- Cupriferous limestone and conglomerate in Cape Breton Island, N.S., (76-77) pp. 438, 441, 444, 446, 450.
- Curative functions of Indian medicine men, Haida Indians, (78-79) p. 122 B.
- Currency used among Haidas, shells, coppers and blankets, (78-79) p. 135 B.
- Current River, Ont., trap rocks of, boundary of Laurentian on, (66-69) E. p. 325, F. p. 359.

- Current River, Ont.—*Cont.*
 Huronian rocks on, (66-69) E. p. 329, F. p. 363.
 traverse of shore to Amethyst Harbour, (72-73) p. 90.
- CURRIE, REV. HECTOR, collection of Hamilton fossils presented to Survey, (80-82) p. 23.
 donation to Museum, (82-84) p. 19.
- CURRY, THOS., fossils collected by, (72-73) pp. 2-3.
- Curry's iron mine, N.S., rocks of, (76-77) p. 426.
 note on iron ore deposits, (77-78) p. 28 F.
 note on hematite at, (82-84) p. 91 H.
see also French Vale road, N.S.
- Curryville, N.B., porosity and specific gravity of sandstone from, (82-84) p. 2 MM.
- Curtis Brook, Clyburn Brook, N.S., syenitic rocks of, (82-84) p. 16 H.
- Custs House, Peace River, Selwyn's arrival at, (75-76) p. 45.
 barometric height of, (75-76) p. 47.
- Cush-ya or Upper Euchinico Lake, B.C., elevation of bench, (76-77) p. 23.
- Cush-ya or Tsan-tsed-ako River, B.C., average size of, (76-77) p. 25.
- Cuthbertson location, Wellington and Bruce mines, Ont., note on copper lodes, (1863) p. 60.
- Cut Bank, Willow Creek, Alta., note on exposure of Willow Creek beds at, (82-84) p. 78 C.
- Cut-off Brook, B.C., branch of Nechacco River surveyed for railway, (76-77) p. 43.
- Cyanite from North Thompson River, B.C., collected by A. R. C. Selwyn, analysis of, by G. C. Hoffmann, (78-79) p. 1 H.
- Cycadæ*, fossil species from Skidegate Channel, Q.C.Is., (72-73) pp. 69-70.
- Cycadeocarpus (Dioonites) Columbianus*, Dawson, description and figure, (72-73) pp. 69-70.
- Cycadites Unjiga*, Dawson, preliminary note on specimens of, (79-80) p. 120 B.
- Cyclonema biliz*, Conrad, wood-cut of, (1863) p. 217.
- Cyclonema Hageri*, Billings, wood-cut of, (1863) p. 178.
- Cyclonema Halliana*, Salter, wood-cut of, (1863) p. 178.
- Cyclonema Montrealensis*, Billings, wood-cut of, (1863) p. 178.
- Cyclonema semicarinata*, Salter, (1863) p. 145.
- Cyclonema sulcata*, Hall, wood-cuts of, (1863) p. 343.
- Cypress Hills, Assa., lignite reported, fossil bones reported on west side of, (73-74) p. 74.
- Cyrtia Hamiltonensis*, Hall, wood-cuts of, (1863) p. 384.
- Cyrtina Hamiltonensis*, *see Cyrtia Hamiltonensis*, wood-cut of, (1863) p. 384.
- Cyrtoceras exiguum*, Billings, wood-cut of outline of, (1863) p. 150.
- Cyrtodonta Canadensis*, Billings, wood-cut of left valve, (1863) p. 148.
- Cyrtodonta cordiformis*, Billings, wood-cut of right valve, (1863) p. 147.
- Cyrtodonta Hindi*, Billings, wood-cuts of, (1863) p. 214.
- Cyrtodonta Huronensis*, Billings, wood-cuts of left valve, (1863) p. 147.
- Cyrtodonta Leucothea*, Billings, wood-cut of, (1863) p. 143.
- Cyrtodonta obtusa*, Hall, wood-cuts of left valve, (1863) p. 147.
- Cyrtodonta rugosa*, Billings, wood-cut of right valve, (1863) p. 148.
- Cyrtodonta subcarinata*, Billings, wood-cut of right valve, (1863) p. 148.
- Cyrtolites ornatus*, Conrad, wood-cut of, (1863) p. 217.
- Cystiphyllum aggregatum*, Billings, wood-cut of, (1863) p. 365.
- Dadoxylon sandstone of New Brunswick, probably Upper Graywacke System, of Gesner, (70-71) p. 20.
 area traced out, (70-71) p. 170.
 thickness, position in series, (70-71) p. 170.
 gradually pass to Cordaite group, (70-71) p. 174.
 exposed at Mt. Prospect, St. John, N.B., (70-71) p. 174.
 exposures of, on Black River, N.B., (70-71) p. 175.
 exposures near Diamond Hill, Musquash Harbour, N.B., (70-71) p. 176.
 exposed near Lepreau Basin, N.B., (70-71) p. 176.
- D'Aillebout Seignory, Que., spinel reported in limestone of, (1863) p. 499.
- D'Aillebout Tp., Que., cobalt in copper ores, reference to, (1863) p. 751.
 note on clintonite from, (63-66) p. 211.
- Dakota Period of the Cretaceous, conditions of deposition, (79-80) p. 133 B.
- Dalhousie, N.B., extent of Lower Carboniferous rocks near, (79-80) p. 10 D.
 trap ridges and fossils in trap at Bon Ami Point, (79-80) p. 20 D.
 ridges of diabasic trap, breadth and elevation of, (79-80) p. 38 D.
- Dalhousie Station to Campbellton, N.B., character of rocks of shore, (79-80) p. 11 D.
- Dalhousie iron-mine, Lanark Co., Ont., history of, depth of shafts, quality of ore mined, (71-72) p. 122.
 analysis of ore from, by Gordon Broome and B. J. Harrington, (71-72) p. 123.
 horizon of iron ore at, (72-73) p. 162.

Dalhousie iron-mine—Cont.

- plan and section, description of works, (72-73) p. 176.
- production of ore, 1870-1873, (72-73) p. 177.
- occurrence of hematite with limestone, (73-74) p. 212.
- results of examination of hematite from, (73-74) p. 225.
- analysis of hematite from, (73-74) p. 226.
- cost of labour, (73-74) p. 242.
- cost of mining ore, (73-74) p. 244.
- cost of transportation of ore, (73-74) p. 245.
- note on annual production of, (73-74) p. 258.
- horizon of, in group IV., Lanark, (74-75) p. 150.

Dalhousie Mills, Glengarry Co., Ont., summit of Chazy Formation at, (1863) p. 126.

Dalhousie and Cage pits, Pictou, N.S., dip of seams at, (66-69) E. p. 76, F. p. 84.

Dalhousie pit works, Albion mines, Pictou, N.S., (66-69) E. p. 87, F. p. 97.

Dalhousie pits, section of main seam, (66-69) E. p. 90, F. p. 101.

lower levels extending to Forster pit, (66-69) E. p. 91, F. p. 102.

gas trial of coal at Pictou, (66-69) E. p. 434, F. p. 484.

Dalhousie Map-sheet, No. 3, south-west part of Restigouche Co., N.B., scale 4 m. = 1 in., with report, (80-82) D.

Dalhousie Tp., Lanark, Ont., hematitic iron-ore of, (70-71) p. 314.

history of iron mine, depth of shafts, quantity mined, analysis of ore, (71-72) pp. 122-123

crystalline limestone quarried at, (73-74) p. 104.

granular and speckled diorites in, (74-75) p. 136.

occurrence of serpentine limestone with forms resembling *Eozoön*, (74-75) pp. 138-139.

magnetic pyrites in schists, (74-75) p. 139.

width of limestone band, (74-75) p. 140.

blotched diorites in limestone band, (74-75) p. 145.

banded limestones, breadth of band, (74-75) p. 145.

syenitic gneiss, isolated area in limestones, (74-75) p. 145.

tremolitic dolomite in, (74-75) p. 147.

hornblende rocks, group IV., (74-75) p. 150.

horizon of *Eozoön* in, (74-75) p. 158.

coarsely-blotched diorites of, (76-77) p. 261.

assay for gold and silver of iron pyrites from lot 9, R. XI., (79-80) p. 20 H.

DALL, W. H., information from, on earlier voyages on West Coast, (78-79) p. 7 B.

estimate of number of Kai-ga-ni Indians in Alaska, (78-79) p. 174 B.

Dallas Brook, North Mountain, Inverness, N.S., crystalline limestone outlier on, (79-80) pp. 18-19 F.

Dalmanites Achates, Billings, wood-cut of, (1863) p. 187.

Dalmanites Bebryx, Billings, wood-cut of, (1863) p. 187.

Dalmanites limulurus, Green, wood-cut of, (1863) p. 320.

Daly's mills, Storrington, Ont., exposure of Potsdam sandstone at, (1863) p. 98.

Dana Inlet, Q.C.Is., description of, (78-79) p. 26 B.

Dancing ceremonies among Haida Indians, (78-79) pp. 127-129 B.

Dancing costumes of Haida Indians, masks, see plate VI., (78-79) p. 137 B.

Dancing ornament, Haida, figured on plate X., (78-79) B.

Danger rocks, off Houston Stewart Channel, Q.C.Is., description of, (78-79) p. 16 B.

Daniels Harbour, Nfld., succession of beds at, fault, (1863) p. 292.

Dan McGilvary seam, section of, on east side Sydney Harbour, N.S., (74-75) p. 229.

Dannemora ore of Sweden, composition of, (66-69) E. p. 251, F. p. 278.

Dannemora mines, Sweden. chlorite with magnetite, (73-74) p. 200.

Danville, Que., lower black slates near, (1863) p. 240.

Danville and Sutton anticline, Que., general course of, lower slates exposed by, (1863) p. 240.

magnesian rocks of eastern side of, (1863) p. 247.

Dark argillite series in New Brunswick, descriptions of exposures, (70-71) pp. 192-196.

synopsis of divisions, (71-72) p. 192.

geographical distribution, (71-72) pp. 192-197.

age not sufficiently determined, (74-75) p. 84.

Dark Harbour, Grand Manan Island, section of Triassic traps, (70-71) p. 220.

Darling Tp., Lanark, Ont., Hastings Series extend to, (70-71) p. 311.

breadth of dolomite and slate group, (Huronian), (74-75) p. 135.

granular and speckled diorites, (74-75) p. 137.

banded limestones, (74-75) p. 144.

localities for copper ore, (74-75) p. 162.

Darlington Tp., Ont., Silurian boulders in groups, (1863) p. 895

Dartmouth River, Que., thickness of Gaspé limestones on, (1863) p. 394.

exposures of Gaspé limestone in vicinity of, (1863) p. 406.

limestones of upper part, serpentine, Two-ridged Mt., (1863) pp. 880-881.

Quebec Group exposed on, (1863) p. 882.

lower beds of Devonian on, (80-82) p. 9 DD.

description of lower part, boundaries of formations on, Devonian, Silurian and Lévis rocks, (80-82) p. 12 DD.

- Dartmouth River, Que.—*Cont.*
fossils from lower part of Devonian, (80-82) p. 14 DD.
the Quebec Group, rocks of, (80-82) p. 21 DD.
- DARWIN, MR., on rocks of Chili, referred to, (76-77) p. 90.
- Darwin Sound, Q C. Is., description of, (78-79) p. 23 B.
note on latitude observations taken in, (78-79) p. 233 B.
- DAUBÉE, MONS., quoted on metamorphism, discussion of methods of, (1863) pp. 580-584.
on temperature of crystallization, (63-66) p. 193.
Canadian series of rocks presented to Jardin des Plantes, Paris, through, (68-69) p. 4 Summ.
- D'Auteuil Seignory, Que., the Trenton limestone outcrop in, (1863) p. 155.
peat deposits in, noted, (1863) p. 782
- Davenport ridge, Toronto, Ont., note on formation of, (1863) p. 915.
- David Head seam, near Low Point, N.S., section, (74-75) p. 225.
- Davieaus Island, Nastapoka Sound, Hudson Bay, section on, (77-78) p. 18 C.
occurrence of spathic iron-ore, (77-78) p. 21 C.
character of chalcedony on, (77-78) p. 22 C.
- Davies mine, Hull Tp., Que., openings made, graphic granite, (82-84) p. 16 L.
- DAVIS, MR., analysis of water of Harrowgate Springs, referred to, (63-66) p. 279.
- Davis Creek, B.C., gold workings on, (76-77) p. 138.
- Davis Rapid, Mattagami River, Ont., junction of Huronian and Laurentian, (75-76) p. 313.
- Dawn Tp., Ont., salt found in boring for oil, (74-75) p. 288.
salt in oil well, discovered, (76-77) p. 222.
- DAWSON, G. M., summary of explorations by, on International Boundary Survey, 1873, (73-74) p. 4.
extract from report on hematite deposits of Pictou Co., N.S., east of East River, (73-74) pp. 215-216.
reference to exploratory work in 1873 in Pictou Co., N.S., (73-74) p. 217.
extract from report on limonites of Pictou Co., N.S., (73-74) p. 230.
report on Sutherlands River, N.S., spathic ore deposits, quoted, (73-74) p. 238.
extract from report on geology of the 49th Parallel, on clay iron-stones of the Tertiary, with analyses, (73-74) pp. 240-241.
notes on Cretaceous limestones of Swan River and Thunder Hill, Man., (74-75) pp. 66-67.
catalogue of plants collected by, from 49th Parallel, included in, (75-76) pp. 186-232.
summary of exploration during 1875, routes travelled, acknowledgments for assistance, (75-76) pp. 233-234.

- DAWSON, G. M.—*Cont.*
report on explorations on Chilco and Nazco rivers and trail to Fort George, B.C., (75-76) pp. 233-265.
work in British Columbia during 1876, (76-77) p. 3.
report on basins of Blackwater, Salmon and Nechaco rivers and François Lake, B.C., by, (76-77) pp. 17-149.
report on reconnaissance of Leech River and vicinity, Vancouver I., (76-77) pp. 95-102.
report on minerals and mines of British Columbia, with list of localities, (76-77) pp. 103-149.
analysis of coal from Cañon of Peace River, (76-77) in table facing p. 470.
analyses of lignite from Porcupine Creek and Great Valley, 49th Parallel, (76-77) table facing p. 472.
work done by, in 1877 and 1878, in Central British Columbia and Queen Charlotte Is., (77-78) p. 4.
report on southern portion of interior of British Columbia, (77-78) pp. 1-187 B.
résumé of work in British Columbia for 1875-6 and 1877, (77-78) p. 1 B.
region examined in 1877, character of surveys and observations, (77-78) pp. 2-3 B.
description of *Loftusia Columbiana* from Marble Cañon, B.C., mode of occurrence, quoted, (77-78) pp. 89-90 B.
descriptions of fossil insects, collected in 1877, (77-78) pp. 175-185 B.
summary of explorations for 1879, (78-79) p. 2.
details of equipment and route followed in explorations of 1878 to Queen Charlotte Is., (78-79) pp. 1-2 B.
report on Queen Charlotte Islands, with map, 8 m. = 1 in., (78-79) pp. 1-101 B.
report on Haida Indians of Queen Charlotte Islands, (78-79) pp. 103-175 B.
vocabulary of Haida Indians of Queen Charlotte Islands, made by, (78-79) pp. 177-189 B.
list of Crustacea from Queen Charlotte Is. and Vancouver I. (78-79) pp. 206-218 B.
list of plants collected by, in Q.C. Is., 1878, (78-79) pp. 219-222 B.
notes on geology of areas drained by Red and Assiniboine rivers, Man., (78-79) pp. 8-10 H.
summary of work by, during 1880, (79-80) p. 1.
on the Lignite Tertiary Formation from the Souris River to 108th Meridian, International Boundary, (79-80) pp. 12-49 A.
analyses of lignites from Souris River, Great Valley and Porcupine Creek, International Boundary, (79-80) pp. 43-45 A.
narrative of journey in 1879 up Skeena River and down Peace River, (79-80) p. 1 B.
report on exploration from Port Simpson to Edmonton by Peace River, (79-80) pp. 1-165 B.
arrangement of parties at Dunvegan for explorations southward, (79-80) p. 63 B.

DAWSON, G. M.—*Cont.*

- list of plants collected by, in 1879, Northern British Columbia and Peace River, (79-80) pp. 143-146 B.
- latitude and longitude observations in Northern British Columbia and Peace River country, taken by, (79-80) pp. 157-163 B.
- note on distribution of more important trees of British Columbia, with accompanying map, (79-80) pp. 167-177 B.
- summary report of operations in Bow and Belly region during 1881, (80-82) p. 3.
- absence in Europe studying fuels, (80-82) p. 28.
- preliminary report on geology and coal deposits of Bow and Belly River region, (80-82) pp. 1-23 B.
- note on mode of occurrence of clay ironstones in North-west Territories, (80-82) pp. 9-10 H.
- analysis of coal from Coal Banks seam, Belly River and Bow River, (80-82) p. 14 B.
- summary of work by, in 1883, in Assiniboia and Alberta, and in Rocky Mts., (82-84) pp. 3-4.
- introductory note accompanying report by Mr. H. Bauerman, (82-84) p. 3 B.
- report on region in vicinity of Bow and Belly rivers, Alta., (82-84) pp. 1-169 C.
- letter transmitting report on Bow and Belly region, (82-84) p. 3 C.

- DAWSON, J. W., sketch of work done for Survey previous to 1863, (1863) p. ix.
- plant remains identified by, from Gaspé sandstones of York River, Que., (1863) p. 885.
 - on clays of Eastern Canada, classification of, (1863) p. 915.
 - description of superficial deposits of Montreal Island, (1863) pp. 918-920.
 - examination of supposed Laurentian fossils, (63-66) p. 15.
 - term "Millstone Grit" applied to Joggins rocks, by, (66-69) E. p. 8, F. p. 8.
 - reference to work in Pictou Co., N.S., (66-69) E. p. 57, F. p. 63.
 - subdivisions of Carboniferous of Nova Scotia, by, (66-69) E. p. 59, F. p. 65.
 - fossils identified from Tay River, N.B., (66-69) E. p. 185, F. p. 205.
 - notes and section of Main seam, Albion mines, N.S., (66-69) E. pp. 369-370, F. pp. 410-411.
 - assays of samples of coal from Main seam, Albion mines, N.S., by, (66-69) E. p. 371, F. p. 411.
 - assays of samples, from Deep seam, Albion mines, N.S., (66-69) E. p. 373, F. 415.
 - section of Deep seam, Albion mines, N.S., (66-69) E. p. 373, F. p. 415.
 - analysis and report on coal from Fraser mine, Pictou, N.S., (66-69) E. p. 392, F. p. 435.
 - earlier work in New Brunswick, papers by, (70-71) p. 22.

DAWSON, J. W.—*Cont.*

- summary of geology of New Brunswick in Acadian Geol., reference to, (70-71) p. 27.
- list of fossils from Carleton, St. John Harbour, N.B., Dadoxylon sandstone, (70-71) p. 172.
- list of fossil plants from Lepreau Basin, N.B., (70-71) p. 177.
- section of Lower Carboniferous at Albert mines, N.B., and on the Memramcook River, (70-71) p. 209.
- reference to description of plant remains from Perry sandstone, (70-71) p. 202.
- list of fossil plants from Lower Carboniferous of Gardners Creek, N.B., (70-71) p. 210.
- list of fossil plants from Carboniferous of New Brunswick determined by, (70-71) pp. 214-216.
- reference to description of *Sauropus unguifer*, (71-72) p. 15.
- reference to report on land plants of Devonian and Silurian, (71-72) p. 15.
- on fossils from Kamloops Lake, B.C., (71-72) p. 58.
- on plant remains from Quesnel, B.C., (71-72) p. 59.
- on fossils of Upper Cache Creek Group, B.C., (71-72) p. 61.
- determination of fossils from Departure Bay, B.C., (71-72) p. 82.
- note on fossil plants from Vancouver Island, B.C., (71-72) p. 98.
- assistance rendered in determining fossils from Arisaig, N.S., (72-73) p. 3.
- acknowledgments for work by, (72-73) p. 5.
- analysis of ankerite and ochre ores, Londonderry, N.S., (72-73) p. 27.
- note on fossil plants from British Columbia, collected in 1872, (72-73) pp. 66-70.
- note on Carboniferous fossils from Salmon River, N.B., list of localities, (72-73) pp. 206-207.
- reference to description of coal seams, Victoria mine, N.S., (72-73) p. 253.
- analyses of coal from Gardiner mine, N.S., (72-73) p. 272.
- acknowledgment for assistance to Survey, (73-74) p. 2.
- date of publication of "Fossil Plants of the Carboniferous and Millstone Grit," (73-74) p. 3.
- note on fossil plants from Edmonton coal bearing rocks, (73-74) p. 51.
- note on fossil woods composing the lignites, and condition of forest growth during Tertiary time, (73-74) p. 85.
- reference to estimate of varying thickness of productive Coal Measures, (73-74) p. 177.
- list of plant remains from Mackenzie River, determined by, (74-75) p. 11.
- notes on fossil plants from Millstone Grit of Cossits Pit, near Sydney, N.S., (74-75) pp. 191-192.
- analysis of coal from Carroll seam, N.S., (74-75) p. 193.

DAWSON, J. W.—*Cont.*

- analysis of coal from Fraser seam, Sydney Harbour, N.S., (74-75) p. 193.
 list of fossil plants from argillaceous shales of Coal Measures of Nova Scotia, (74-75) p. 196.
 note on plant remains from Quesnel and Blackwater River, B.C., list of species, (75-76) pp. 259-260.
 referred to, (76-77) pp. 435, 446.
 note on fossil plants from Fraser River above Lytton, B.C., (77-78) pp. 109-110 B.
 list of plants from Tertiary beds of Southern British Columbia, (77-78) p. 186 B.
 description of new fossil *Equisetum* from Similkameen, B.C., (77-78) p. 187 B.
 Carboniferous plants, work of, on, (79-80) p. 7.
 note on fossil plants collected by A. R. C. Selwyn at Roche Percée, Souris River, Assa., (79-80) pp. 51-55 A.
 note on Cretaceous plants from Pine and Peace rivers, N.W.T., (79-80) pp. 120-122 B.
 character and analysis of coal from Little River, N.S., (79-80) p. 119 F.
 analysis of coal from Sea Coal Bay, N.S., (79-80) p. 121 F.
 note on fossils from Magdalen Islands, at Grindstone I., (79-80) p. 7 G.
 report on Devonian and Silurian plants of Canada referred to, (80-82) p. 23.
 plant remains from Devonian of Gaspé Bay, list of, by, (80-82) pp. 6-7 DD.
 on Permo-Carboniferous age of rocks at Cape Tormentine, N.B., (82-84) p. 18 E.
- DAWSON, WM B., work by, assisting B. J. Harrington, (73-74) p. 8.
 survey of Nova Scotia gold-fields commenced by, area surveyed in 1881, (80-82) pp. 8-9.
- Dawson Bay, Lake Winnipegosis, Man., salt works on, (74-75) p. 69.
- Dawson pit, Blockhouse mine, N.S., (72-73) p. 278.
- Dawson Route, Lake Superior to Red River, notes on geology of, (73-74) pp. 87-90.
- Dead Horse Coulée, Milk River, Alta., description of vicinity, (82-84) p. 16 C.
 castellated sandstones overlying dark shales, (82-84) pp. 40-41 C.
 small seams of coal in, (82-84) p. 43 C.
- Dead Lodge Cañon, Red Deer River, Alta., bad lands and coal seams, (82-84) p. 95 C.
- Dead Man's Harbour, Charlotte Co., N.B., slate and conglomerates, (70-71) p. 86.
 thickness of Upper Silurian, (76-77) p. 338.
- Dead Man's Head, Charlotte Co., N.B., slates and felsites, (70-71) p. 86.
 fault, (70-71) p. 180.
 to Oak Bay, N.B., coloured geological section on map accompanying, (78-79) D.
- Dead Man's Island, Marble I., Hudson Bay, rocks of, illustration showing view of harbour, (82-84) pp. 34-35 DD.
- Dead Man's Island, near Hamilton Inlet, Labrador, ores of copper and lead reported on, (82-84) p. 13 DD.
- Dead Man Point, N.S., chalybeate spring at, (76-77) p. 442.
 salt spring at, (76-77) p. 456.
- Dead River, Lake Superior, dolomite overlain unconformably by sandstone, trap dyke cutting dolomite, (1863) p. 84.
- Deadwater Brook, Canterbury parish, N.B., conglomerates in Cambro-Silurian, (82-84) p. 15 G.
 or Dead Creek, Oromocto Lake, N.B., surface geology of valley, (82-84) p. 18 GG.
 kame running along valley of, (82-84) p. 26 GG.
- Dean Channel, B.C., gray gneiss rocks of, (74-75) p. 76.
 copper from, (76-77) p. 148.
- DEANS, JAS., coal measures traced to Slate Creek, Cowgitz, Q.C.Is., (72-73) p. 60.
- Dease River, B.C., gold deposits discovered on, (76-77) p. 117.
 gold workings on, (76-77) p. 138.
- Debec, N.B., contact of Cambro-Silurian at O'Donnell's crossing, (82-84) p. 17 G.
- Decades of Canadian organic remains, note on contents of, artists and engravers of plates, for (1863) p. xv.
- Deception Lake to Cross Lake, on C.P.R., Ont., Laurentian rocks of, (80-82) p. 13 C.
- DECEW, J., sketch of work performed by, previous to 1863, (1863) p. v.
 collection of fossils from Bertie, Haldimand Co., Ont., (71-72) p. 14.
 Devonian plants purchased from, (73-74) p. 5.
 number of fossils purchased from, (74-75) p. 11.
- DeCewville, Cayuga, Ont., millstones manufactured at, (1863) p. 809.
- D'Echafand River valley, Peace River, N.W.T., description of, (79-80) p. 49 B.
 Laurentian fragments in drift, (79-80) p. 139 B.
- Decomposed granite at Trapps Lake, near Stump Lake, B.C., (77-78) p. 78 B.
- Decomposition, of Labradorite and Laurentian rocks of Saguenay region, Que., (82-84) pp. 7-8 D.
 of rocks of Cache Creek Series, B.C., (71-72) p. 62.
- Decrease, of hygroscopic water in mineral fuels on approaching Rocky Mountains, note and diagram illustrating, (82-84) p. 136 C.
 in population at Skidegate Indian village, Q.C.Is., (78-79) p. 166 B.
- DeCourcy Islands, B.C., rocks at, (76-77) p. 183.
- Deep Bay, Baynes Sound, B.C., safety of harbour, (71-72) p. 81.
 value as a harbour, (73-74) p. 102.
- Deep boring in other countries, examples of deep wells, (74-75) p. 4.

- Deep Creek, near Soda Creek, B.C., botanical notes, (75-76) p. 126.
description of trail on, (77-78) p. 43 B.
- Deep Cove, Cowitchen, B.C. coal at, (76-77) p. 187.
- Deep River, above La Crosse Lake, N.W.T., width, character of water, (75-76) p. 178.
- Deep seam, Pictou coal-fields, N.S., west of East River, section of, (66-69) E. p. 68, F. p. 75.
east of East River, Pictou, N.S., (66-69) E. p. 75, F. p. 83.
outcrop westward in Pictou coal-field, (66-69) E. p. 76, F. p. 84.
equivalent seam at Acadia colliery, (66-69) E. p. 80, F. p. 90.
sections at Cage pit, workings, (66-69) E. p. 92, F. p. 103.
Albion mines, underground workings on, (66-69) E. p. 92, F. p. 103.
quality of coal, (66-69) E. p. 92, F. p. 103.
- Deer Brook Bay, Bonne Bay, Nfld., section of rocks on, with fossils, (1863) pp. 865-867.
- Deer Islands, mouth of Passamaquoddy Bay, N. B., notes on Kingston Group on, (70-71) pp. 127-128.
section near Hardwood Islands, (70-71) p. 128.
probability of Upper Silurian rocks being exposed on, (70-71) p. 162.
reference to occurrence of magnetite, (73-74) p. 206.
- Deer Lake, Anglesea and Kaladar, Ont., granites of, (72-73) p. 141.
Belmont Tp., Ont., sulphuret of copper, (74-75) p. 160.
- Deer Lake route to Island Lake, Keewatin, (78-79) p. 32 C.
- Deer River, Ferrie Tp., Ont., limestone on, referred to, (76-77) p. 206.
- Deer River from Reindeer Lake, N.W.T., general description of, height of hills, strike of gneiss, (79-80) p. 14 C.
- DE FONT, BARTHOLEMÉW, narrative of voyage on west coast, reason for authenticity, (78-79) pp. 6-7 B.
- De la Beche Inlet, Q.C.Is., description of, (78-79) p. 21 B.
- DeLéry Seignory, Que., note on peat bog in, (1863) p. 782.
- De Léry, Vaudreuil Seignory, Que., quartz veins in, (63-66) p. 72.
- Delessite, mineral resembling, (63-66) pp. 150-152.
in amygdulæ at Quincy mine, Mich., analysis of, (63-66) p. 154.
- Delta of Athabasca River, plants collected, (75-76) p. 167.
of Peace and Athabasca rivers, (75-76) p. 91.
- Delthyris shaly limestone division of Lower Helderberg Group, characters of, in New York, (1863) p. 355.
- Demoiselle Creek, Albert Co., N.B., pre-Silurian rocks of, (77-78) p. 6 D.
- Demoiselle Hill, Amherst I., Magdalen Is., Que., section of rocks near, (79-80) pp. 3-4 G.
height of, diabase forming, (79-80) p. 5 G.
note on manganese ore deposits, (79-80) p. 10 G.
analysis of hematite from, (79-80) p. 15 H.
- Denbigh Tp., Ont., red granites of, (72-73) p. 142.
- Denbo Point, Maine, Upper Silurian fossils from, (70-71) p. 162.
- Denham Tp., Ont., wells at Tilsonburg, (63-66) p. 250.
- Denmans Island, Baynes Sound, B.C., exposures of sandstone and shale, (71-72) p. 79.
lenticular patches of coal, calcareous vein, (71-72) p. 80.
lower shales, fossils of, (72-73) p. 46.
lower conglomerate on, (72-73) pp. 46-47.
cliffs of sand and clay, extent of, (72-73) p. 64.
rocks at, referred to, (76-77) p. 168.
- Dennis Creek, B.C., altitude of gold workings, average yield, (76-77) p. 139.
- Dennis Stream, Charlotte Co., N.B., syenites, gneisses, (70-71) p. 51.
gneisses at mouth, (70-71) p. 55.
valley of, rocks exposed, (70-71) p. 56.
- Denny Is., B.C., rocks of, (74-75) p. 76.
- Dennyville, Maine, Upper Silurian rocks at, (70-71) p. 163.
- Dense pickle, containing little salt, no longer fit for use, (66-69) E. p. 234, F. p. 258.
- Density, of building stones, mode of test, (63-66) p. 281.
of various building stones, table of, (63-66) p. 283.
of Ontario salt brines, gypsum and earthy chlorides, (74-75) pp. 271-273.
- Denys Basin, N.S., Carboniferous rocks of islands of, (79-80) p. 102 F.
- Denudation, in British Columbia, (77-78) p. 139.
of country near St. John River, N.B., (70-71) p. 16.
effects of, in Eastern Ontario, (76-77) p. 273.
of surface of coal formations in New Brunswick, (72-73) p. 223.
effects of, on Silurian rocks of Renfrew, Ont., (76-77) p. 250.
effects of, on gneiss, Ottawa Co., Que., (76-77) p. 284.
of Lower Carboniferous in Wickham, N.B., (72-73) p. 193.
of Lower Silurian in Framboise Basin, N.S., (77-78) p. 16 F.
post-glacial, of Great Plains, N.W.T., (82-84) p. 149 C.
- Departure Bay, B.C., sandstones and impure limestones of, (71-72) pp. 81-82.
Cretaceous fossils from, (71-72) p. 82.
note on rock specimen from, (71-72) p. 100.
section at, (76-77) p. 172.

- Deposits overlying boulder clay, Southern Alberta, (82-84) pp. 145-152.
- Depth, of apatite deposits, note on, (77-78) p. 12 G.
- of Kamloops Lake, B.C., cause of, (77-78) p. 18 B.
- of profitable mining in gold region, N.S., (70-71) p. 268.
- of ocean, when Leda clay beds were deposited, (77-78) p. 30 EE.
- of water in Hudson Bay, (79-80) p. 28 C.
- Derby Tp., Grey Co., Ont., exposure of Niagara Formation, fossils found, (1863) p. 329.
- Dernier estate, Upper Salmon River, Albert Co., N.B., analysis of bituminous coal from, (79-80) p. 8 H.
- De Salaberry Tp., Que., distribution of limestone bands, overlying labradorite, (1863) p. 838.
- anorthosite interrupting limestone bands, (1863) p. 838.
- outlying patch of anorthosite noted, (1863) p. 839.
- Deschailons Seignory, Que., section of superficial deposits in, (1863) p. 921.
- Deschambault, Que., anticlinal axis in Laurentian at, (1863) p. 96.
- the Trenton limestone in vicinity of, (1863) p. 154.
- Deschambault anticline, Que., effect of, on Trenton Group, (1863) p. 152.
- limit of the Hudson River Formation, south of, (1863) p. 203.
- effect on distribution of Hudson River rocks of Quebec, (1863) p. 205.
- supposed to bring up Trenton on Lake Champlain, (1863) p. 272.
- Deschambault limestone, density of, (63-66) p. 283.
- Deschambault Seignory, Que., the Trenton Formation in, (1863) p. 152.
- Descousse, Madame Is., N.S., section of rocks to Goulet Pond, (79-80) p. 35 F.
- Description and analyses of coal seams worked in Cape Breton Co., N.S., (72-73) p. 290.
- Description of Haida houses on North Island, Q.C.Is., (78-79) p. 147 B.
- Descriptive Geology of region in the vicinity of the Bow and Belly rivers, Alta., (82-84) pp. 36-111 C.
- Desjardins Canal, Hamilton, Ont., note on clay deposit, (1863) p. 902.
- Des Joachims, Ottawa River, rocks at, gneiss, (76-77) p. 278.
- Des Plantes River, *see* Guillaume River.
- Destruction of timber in Eastern New Brunswick, note on, (80-82) p. 6 D.
- Deterioration of lignite at outcrop of seams, (79-80) p. 46 A.
- Detter Brook, St. Peters, N.S., Devonian rocks of, (79-80) p. 34 F.
- Deux Rivières, Ottawa River, position of, (76-77) p. 277.
- rocks at, (76-77) p. 278.
- Development of iron ores of Canada, by B. J. Harrington, (73-74) pp. 242-259.
- Devils Back, Long Reach, N.B., rocks of, (70-71) p. 115.
- granulite ridge north of, (77-78) p. 27 DD.
- sandstones resting on Primordial shales, probable age of, (77-78) pp. 32-33 DD.
- Devils Brook, Ste. Anne River, Que., section of metamorphic rocks in, (82-84) p. 17 F.
- Devils Cape, Port Daniel, Que., rocks composing, (1863) pp. 445.
- Devils Elbow, Matapedia River, Gaspé, Que., limestones above, (1863) p. 415.
- Devils Elbow, Nipisiguit River, N.B., pre-Cambrian gneisses, (79-80) p. 31 D.
- Devils Head, Calais, Maine, syenites give place to granites, (70-71) p. 188.
- Devils Lake, Bedford Tp., Ont., apatite-bearing band, (70-71) p. 315.
- phosphate deposits of, (72-73) p. 172.
- Devils Rapids, Chaudière River, Que., description of workings for gold at, (63-66) p. 54.
- Missinaibi River, Ont., Huronian rocks of, (75-76) p. 334.
- Devonian age of dolerite eruptives in Gaspé, Que., (82-84) p. 34 E.
- Devonian anthracite in Massachusetts, Rhode Island and New Brunswick, (78-79) p. 14 D.
- Devonian outlier on Bonaventure River, Gaspé, south of Devonian area, (82-84) p. 29 E.
- on Upsalquitch River, N.B., (79-80) p. 17 D.
- south and east of St. John, N.B., (70-71) p. 174.
- Devonian coal in Gaspé, Que., noted in general sections of Gaspé sandstones, (1863) p. 394.
- Devonian fishes from Escuminac, Que., described in 1881, publication of referred to, (80-82) pp. 9-10.
- in beds at Fleurant, Bay of Chaleurs, (79-80) p. 13 D.
- Devonian fossils collected from rocks on Athabasca River, (82-84) p. 23 CC.
- Devonian fossils, from Lepreau Basin, N.B., (70-71) p. 177.
- Matagami River, Ont., notes by J. F. Whiteaves, (75-76) pp. 316-320.
- Miners Brook, Gaspé, Que., list of, (82-84) p. 23 E.
- Nelson River basin, list of, (78-79) p. 51 C.
- of Peace River country in drift deposits, (79-80) p. 131 B.
- Peace, Athabasca and Clearwater rivers, collected by Prof. Macoun, (75-76) pp. 103-106.
- Percé and Gaspé Bay, found in rocks of lower division near, (80-82) pp. 7-9 DD.
- St. John, N.B., list of, (70-71) p. 172.

Devonian fossils—*Cont.*

or Carboniferous fossils from Fossil Point, Peace River, notes on, (75-76) pp. 98-102.

Devonian hematite in rocks of Nova Scotia, (73-74) p. 218.

Devonian, limestone, of Abitibi River, Ont., notes on, (77-78) p. 36 C.
boulders of, from Lake Superior, near Pic, (66-69) E. p. 353, F. p. 391.
of lower part of Moose River, Ont., (75-76) p. 322.
in drift on Peace River country, (79-80) p. 131 B.

Devonian oil wells in Pennsylvania, in Portage and Chemung, (63-66) p. 240.

Devonian ridge, west of East River, Pictou Co., N.S., (66-69) E. p. 58, F. p. 64.

Devonian rocks, on Athabasca River, highest exposure, (82-84) p. 15 CC.

of Bay of Chaleurs basin, (80-82) pp. 9-12 D. on Cedar Lake, Sask., (73-74) p. 52.

in Charlotte Co., N.B., pale argillites, distribution of, (76-77) p. 333.

of Charlotte Co., N.B., northern part of, referred to, resumé of general characters, (78-79) p. 14 D.

on Coal Creek, Grand Lake, N.B., (72-73) p. 208.

of Gaspé, Que., the Gaspé Series, parts included in Devonian with conglomerates formerly classed as Bonaventure, (80-82) p. 3 DD.

of Gaspé, Que., descriptions of exposures and lists of fossils, (80-82) pp. 3-15 DD.

of Gaspé Peninsula, Que., interior of, general discussion, localities, lists of fossils, (82-84) pp. 19-25 E.

of Gaspé, Que., note on eruptive rocks in, (82-84) p. 25 E.

of Inverness Co., N.S., (79-80) pp. 50-54 F. of Lakes Winnipegosis and Manitoba, fossils of, (74-75) pp. 67-68.

of Lake Winnipegosis, descriptions by H. Y. Hind, (73-74) pp. 52-53.

of Lake Manitoba, (74-75) p. 37.

of Madame Island, N.S., (79-80) pp. 35-40 F. of Manitoba, short note on occurrence of, (73-74) p. 83.

of New Brunswick, eastern part, extent of, local descriptions, fossil forms, (79-80) pp. 10-14 D.

southern part, (pale argillites) general outline of areas, and description of coast near Lepreau, (78-77) pp. 11-15 D.

of Pictou Co., N.S., authority for age of, breadth, (66-69) E. p. 7, F. p. 8.

brecciated nature of rocks, (66-69) E. p. 7, F. p. 7.

adjacent to coal-fields, east part, (66-69) E. pp. 5-7, F. pp. 5-8.

of Queens and Sunbury Cos., N.B., additional notes on, (75-76) pp. 367-368.

metamorphic rocks of Richmond Co., N.S., (77-78) pp. 16-23 F.

Devonian rocks—*Cont.*

of Richmond, Inverness and Guysborough, N.S., extent, unconformity above and below, thickness of series, descriptions of exposures, (79-80) pp. 32-54 F.

of St. Francis River and to Lake Memphremagog, Que., (1863) pp. 429-437.

of St. John Co., N.B., eastern part of, (70-71) p. 175.

of St. Peters, N.S., additional notes on, (79-80) pp. 34-40 F.

of the Upsalquitch River, N.B., (79-80) p. 14 D.

Devonian and Millstone Grit of Loch Lomond, N.S., note on character and contact, (79-80) p. 34 F.

Devonian salt horizon, probable, note on well at Port Austin, Michigan, (66-69) E. p. 220, F. p. 243.

Devonian sandstones of St. Croix River, N.B., (76-77) p. 331.

Devonian System, note on limits of, determined on in Canada, (1863) p. 933.

in Canada, descriptions of Oriskany and Corniferous Formations, (1863) pp. 359-379.

description of Hamilton Formation and Portage and Chemung Group, (1863) pp. 382-387.

of Gaspé Peninsula, Que., typical fossils of each of the three divisions, lists, (80-82) pp. 13-14 DD.

in Gaspé, Que., unconformity with Silurian in, (82-84) p. 27 E.

in Michigan and New York, thickness of, (1863) p. 389.

of New Brunswick, relation to coastal group in western part of St. John Co., N. B. (70-71) p. 94.

in New Brunswick, subdivisions of, thickness, (70-71) p. 170.

details of, (70-71) pp. 171-178.

in Southern New Brunswick, history, (70-71) pp. 169-178.

in New York, western part, thickness, etc., (63-66) p. 238.

in New York, description of Hamilton Group, Portage Group and Chemung Group, (1863) pp. 380-382.

general description of thickness, (1863) p. 389.

Devonian up-thrust, Pictou coal-fields, N.S., (66-69) E. p. 65, F. p. 73.

DEWE, J., specimen of gold bearing quartz from Hay Island, presented through G. C. Hoffman, (80-82) p. 15 C.

Diabase, general characters of, (1863) p. 649.

of Demoiselle Hill, Magdalen Is., (79-80) p. 5 G.

of Huronian of Lake Superior, (63-66) p. 123.

in Marmora and Madoc Tps., Ont., (63-66) p. 96.

in Porphyritic Series, Salmon River, B.C., (76-77) p. 59.

altered, microscopic structure of, Potton Tp. and Adstock Tp., Que., (80-82) pp. 12-13 A.

Diabasic rocks of vicinity of Elm Tree River, N.B., (79-80) pp. 40-41 D.
of Northern New Brunswick, character and distribution, age of, (79-80) pp. 37-42 D.
north of Peters River, N.B., section of, (79-80) p. 40 D.

Diabase-porphry, Goulais River, Ont., (63-66) p. 123.

Diabase-schist, Huronian of Lake Superior, (63-66) p. 124.

Diagram, illustrating strata met with in Attrill's boring, Goderich, Ont., (76-77) facing p. 232.

of ideal section of relation of Quebec Group to Trenton Group, (1863) p. 296.

of relative composition of coals, lignites, etc., (80-82) facing p. 21 B.

of decrease of hygroscopic water in lignites and coals on approaching mountains, (82-84) facing p. 136 C.

of sections of diorite and serpentine from Mount Albert, Que., (77-78) p. 41 G.

of crystals of olivine partly altered to serpentine, (77-78) p. 42 G.

of outlines of phlogophite crystals, (77-78) p. 25 G.

of passage beds between divisions C and D, Allifords Bay, Q.C.Is., (78-79) p. 68 B.

of pre-glacial channel of Cherry Creek, B.C., (77-78) p. 159 B.

of section of contorted shales on Middle Fork, Old Man River, Alta., (82-84) p. 102 C.

of drift deposits, Okanagan Lake, B.C., (77-78) p. 143 B.

of section at Owen Sound, Ont., of surface deposits, (1863) p. 898.

of granite veins cutting Devonian limestones of Stanstead, Que., (1863) p. 434.

of section of St. John River and terraces in valley, at mouth of Salmon River, N.B., (82-84) p. 34 GG.

of land slide and section on Souris River, N.W.T., (79-80) p. 7 A.

Diagrammatic sections:—

geologically coloured, illustrating geology of Canada, (1863) Atlas.

in Albert and Westmoreland Cos., N.B., Lower Carboniferous rocks, (76-77) facing p. 356.

in Bad Lands, N.W.T., junction of Tertiary and Cretaceous, (79-80) facing p. 32 A.

of Belly River, coal seams on, below Coal Banks, (82-84) facing p. 72 C.

of drift deposits, (82-84) facing p. 144 C.

British Columbia, of rocks of southern part, (77-78) facing p. 174 B.

of British Columbia, rock formations near 49th parallel, (82-84) facing p. 42 B.

of Campment d'Ours to St. Joseph Island, Ont., (1863) p. 196.

of Cape Ball, Q.C.Is., of clays and sands north of, (78-79) p. 92 B.

of Cape Breton, from Gabarus Bay to St. Andrews Channel, on map accompanying (Louisburg Sheet), (77-78) F.

Diagrammatic sections—Cont.

Coal Creek to Medicine Hat, Alta., on map of Bow and Belly River region, with report, (82-84) C.

of Comox and Nanaimo coal basins, British Columbia, on map of, accompanying (76-77).

Conglomerate Point, Cumshewa Inlet, Q.C.Is., (78-79) p. 79 B.

Cumshewa Inlet, Q.C. Is. strata at the Peninsula, (78-79) p. 79 B.

sketch of overlap of Cretaceous, (78-79) p. 81 B.

Enniskillen Station, N.B., of Leda clay at, (77-78) pp. 26-27 EE.

Harvey Hill mines, Que., (1863) p. 727.

Highgate Springs and Smiths Lime Works, Vt., showing position of Trenton Group, (1863) p. 855.

Highgate Springs, Swanton Falls and in Swanton, Vt., (1863) Atlas.

terrace at Keswick, N.B., (82-84) p. 40 GG.

Lake Champlain, Que., on Province line east from, (1863) Atlas.

Lake Temiscouata, showing contorted slates on, (1863) p. 425.

Long Island, Hudson Bay, on south-west end of, (77-78) p. 12 C.

Medicine Hat, Alta., of coal-bearing strata at, (82-84) facing p. 78 C.

Middle Fork, Old Man River, Alta., of rocks on, east of Crow Nest Pass trail, (82-84) p. 100 C.

Mission Creek, B.C., gold-bearing beds of, (77-78) p. 157 B.

Montmorenci to Orleans Island, Que., of Quebec Group., (1863) p. 234.

Mountain Rapid, Athabasca River, showing relation of tar sand to Devonian limestone, (82-84) p. 18 CC.

Pacific Coast to forks of Smoky and Peace rivers, *via* Skeena River, on sheets I, II and III. of map accompanying, (79-80) B.

Phillipsburgh Series, on Province Line, Que., (1863) p. 847.

Pine River, N.W.T., Cretaceous sandstone of, showing flexures, (79-80) facing p. 114 B.

Porcupine Hill syncline, Alta., of rocks of disturbed belt, (82-84) facing p. 106 C.

Red Point, Kamloops Lake, B.C., (77-78) p. 116 B.

Section Cove, Burnaby I., Q.C.Is., Triassic rocks, (78-79) p. 56 B.

Short Creek, Souris Valley and Porcupine Creek, Assa., Lignite Tertiary of, (79-80) facing p. 28 A.

Skidegate Inlet, Q.C.Is., of Cretaceous strata on north and south shores of, (78-79) facing p. 63 B.

Souris River, N.W.T., of Lignite Tertiary on, (79-80) facing p. 16 A.

Springhill, N.S., of Coal Measures, (73-74) p. 154.

from mouth of Ste. Anne de Monts River to mouth of Cascapedia River, Gaspé, on Cape Marsouin Map-sheet, issued 1884.

Diagrammatic sections—*Cont.*

- St. Armand Tp., Que., rocks in, (1863) Atlas.
 St. Armand, Que., showing junction of
 Potsdam Group and Phillipsburgh Series,
 (1863) p. 852.
 Swanton, Vt., showing relation of Phillips-
 burgh rocks to Potsdam Group, (1863) p.
 857.
 Sydney River to St. Annes Harbour, N.S.,
 (75-76) facing p. 371.
 Sydney coal-fields, N.S., (74-75) facing p.
 266.
 Union Mine, Comox, B.C., (72-73) p. 39.
 Diallage, general note on occurrence, with
 characters and analyses, (1863) p. 469.
 Diallage rocks of Orford and Ham Tps., Que.,
 analyses of, (1863) p. 469.
 in Quebec Group, eastern edge of Melbourne
 and Potton Tps., Que., (1863) p. 249.
 Diamond drill, description and method of work-
 ing, (72-73) pp. 234-236.
 used in Goderich boring, (76-77) p. 224.
 Diamond Hill, Musquash Harbour, N.B., red con-
 glomerates, Bloomsbury conglomerate,
 (70-71) p. 176.
Diastylopsis, description of new genus, (78-79)
 p. 215 B.
Diastylopsis Dawsoni, Smith, description of new
 species from Dixon Entrance, Q.C.-Is.,
 (78-79) pp. 215-217 B.
 Diatomaceous clays from near Tsa-cha Lake, B.
 C., (76-77) p. 79.
 Diatomaceous earth from Pollet River Lake,
 N.B., genera recognized with analysis of,
 (78-79) pp. 5-6 H.
 Dick, John, referred to, (76-77) p. 178.
 Dickeys Lake, Hastings Co., Ont., slates of C 2
 and C 3, (66-69) E. p. 156, F. p. 173.
 Dicksons Mills, Mississippi River, Ont., exposure
 of Chazy near, (1863) p. 128.
 Pakenham outlier of Trenton at, petroleum
 in orthoceratites, (1863) p. 175.
Dictyonema in lower Silurian of McLeod Brook,
 Boisdale road, N.S., (76-77) p. 428.
 Didequash Harbour, Passamaquoddy Bay, N.B.,
 Mascarene series on coast, (70-71) p. 147.
 Didequash River, N.B., Passamaquoddy Bay,
 rocks of Mascarene series on coast, (70-
 71) p. 149.
 granites and gneisses on, (70-71) p. 186.
 pre-Carboniferous rock, the dark argillite
 series, (70-71) p. 196.
 ridges of gravel, etc., in valley of, (77-78) p.
 17 EE.
 Digby Co., N.S., work by Prof. H. Howe, (68-
 69) p. 8, Summ.
 Digges Island, Hudson Straits, appearance of
 from ship, (79-80) p. 21 C.
 description of rocks of, raised beaches,
 ancient Eskimo works, game animals,
 (82-84) pp. 31-33 DD.
Dikelocephalus Belli, Billings, wood-cut of,
 (1863) p. 236.
Dikelocephalus cristatus, Billings, wood-cut of
 (1863) p. 236.
Dikelocephalus magnificus, Billings, wood-cuts
 of, (1863) p. 235.
Dikelocephalus megalops, Billings, wood-cut of,
 (1863) p. 236.
Dikelocephalus Oweni, Billings, wood-cut of,
 (1863) p. 236.
Dikelocephalus planifrons, Billings, wood-cut
 of, (1863) p. 236.
 Diluvium or drift, table of superficial deposits in
 Canada, (1863) p. 887.
 in Ontario and Quebec, general discussion,
 of, (1863) pp. 893-896.
 Dimensions of Haida houses, Queen Charlotte
 Islands, (78-79) p. 147 B.
 Diminution of water in the North-west Terri-
 tory, (74-75) pp. 53-56.
 Dinosaurian remains, from Belly River Series on
 Belly River, Alta., note on, (82-84) p.
 74 C.
 in Belly River beds of plateau between
 branches of Milk River, Alta., (82-84) p.
 38 C.
 collections made at Scabby Butte, Alta.,
 referred to, (80-82) p. 13.
 Diogenes Brook, Inverness Co., N.S., felsites
 syenite and limestone, (79-80) pp. 28-29 F.
 Carboniferous rocks of, (79-80) p. 101 F.
 Diopside, aluminous, analysis of, from Gren-
 ville, Que., (74-75) p. 302.
 from High Falls, Madawaska River, Ont.,
 analysis of, (1863) p. 467.
 Diorite, definition of term as used for Cape
 Breton rocks, (79-80) p. 4 F.
 general characters of, (1863) p. 649.
 transition to syenite, (74-75) p. 137.
 of base of the Huronian in vicinity of Lake
 Huron, note on origin of, (1863) p. 51.
 included in Upper Silurian in Nerepis Valley,
 N.B., (70-71) p. 168.
 of Abitibi River, Ont., upper part of, (77-78)
 p. 37 C.
 from Adstock Mountain, Que., microscopic
 structure, (80-82) pp. 13-14 A.
 from Alberni Road, B.C., note on specimens
 of, (72-73) p. 83.
 from Brompton Lake and St. Francis,
 Beauce, Que., analysis of, (1863) p. 603.
 from Campton, New Hampshire, analysis of
 by Mr. Hawes, (77-78) p. 44 G.
 in Cape Breton, N.S., (76-77) pp. 405-425.
 of Carleton and Victoria Cos., N.B., (70-71)
 p. 249.
 in Charlotte Co., N.B., character of, (76-77)
 p. 322.
 in Dalbousie Tp., Lanark, Ont., blotched,
 (74-75) p. 145. and (76-77) p. 261.
 of Eastern Townships, Que., probably of
 same age as Lake Superior, (77-78) p. 9 A.
 of Echo Lake, Ont., crystalline, (76-77) p.
 210.
 of French River, Ont., stratified, at mouth
 of, (76-77) p. 195.

Diorite—Cont.

- of Gods Lake, Keewatin, vicinity of, (78-79) p. 36 C.
- of Horne Lake and Mt. Mark, Vancouver Island, B.C., (72-73) p. 53.
- in Kaladar Tp., Ont., (76-77) p. 255.
- on Lake Superior, east shore, (76-77) p. 214.
- of Lanark Co., Ont., belt No. 1, uniformly granular and speckled, (74-75) pp. 136-137.
- belt No. 2, coarse syenites and diorites, (74-75) pp. 137-139.
- belt No. 3, slaty and schistose diorites, (74-75) pp. 139-140.
- of Levant Tp., Ont., (74-75) p. 133.
- in Madoc and Elzevir Tps., Ont., (63-66) p. 95.
- of Montreal River at Great Northern Bend, Ont., (75-76) p. 302.
- of North Sherbrooke Tp., Ont., (74-75) p. 132.
- at Pointe aux Mines, Lake Superior, (76-77) p. 215.
- of Ottawa River, near Lac des Quinze, (72-73) p. 117.
- of Southern New Brunswick, general distribution and modes of occurrence, (78-79) p. 23 D.
- of Tudor Tp., Ont., note on, (74-75) p. 310.
- mass separating limestone basins, (76-77) p. 255.
- bands in calcareous slates of Carleton and Victoria Cos., N.B., (66-69) E. p. 199, F. p. 221.
- conglomerate with syenite pebbles, Montreal River, Ont., (75-76) p. 302.
- conglomerate, Rutherford Tp., Ont., (76-77) p. 209.
- dykes, near Begley mine, Lake Superior, Ont., (63-66) p. 121.
- on Georges Island, Killarney, Ont., (76-77) p. 208.
- on Mattagami River, Ont., descriptions and localities, effect on topography, (75-76) pp. 314-315.
- near Michipicoten Harbour, Lake Superior, vicinity of, (63-66) p. 121.
- on Missinaibi River, general features, (75-76) p. 335.
- of Montreal, notes and analysis of, (77-78) pp. 42-46 G.
- in Oba and Kabinakagami lakes, Ont., (80-82) p. 5 C.
- of York and Carleton Cos., N.B., note on, (82-84) p. 26 G.
- Diorite and hornblende schist group of Lanark Co., Ont., characters and subdivisions of, (74-75) p. 135.
- distribution of subdivisions, (74-75) pp. 136-140.
- Diorite hills, in Anglesea Tp., Ont., (72-73) p. 152.
- at Bridgewater, Ont., sketch view of, (72-73) p. 152.
- at height of land to Abitibi Lake, Ont., (72-73) p. 124.
- south of Abitibi Lake, Ont., (72-73) p. 128.
- in Kaladar Tp., Ont., (72-73) p. 151.
- at St. Peters, N.S., (77-78) p. 19 F.
- Diorite, intrusive of Belœil Mt., Que., description of, (1863) p. 665.
- for building stones, note on, (1863) p. 812.
- in Palæozoic rocks of Ontario and Quebec (1863) pp. 663-665.
- of Rigaud Mt., Que., note on, (1863) p. 665.
- of Mt. Johnson, Que., note on composition of feldspars of, (1863) p. 664.
- Yamaska, Que., description of, (1863) pp. 663-664.
- Diorite masses in Hastings Series, (72-73) p. 153.
- Diorite, mottled, in McDougall Tp., Ont., (76-77) p. 205.
- Parry Sound Ont., (76-77) pp. 199, 204.
- Partridge Bay, Ont., (76-77) p. 198.
- Rivière de la Vielle, Ont., (76-77) p. 209.
- Diorite ridges, overlooking Frederick road, Nerepis Valley, N.S., (70-71) p. 53.
- forming Ham, White and Broughton Mts., Que., (1863) p. 254.
- Diorite schists, Cape Choyé, Lake Superior, (76-77) p. 219.
- Diorite slate at Burnt Point, Lake Superior, (76-77) p. 220.
- in Madoc and Elzevir Tps., Ont., (63-66) p. 95.
- Diorite, stratified, of Acton Tp., Que., description of, appearance of, (1863) pp. 713-714.
- Drummondville and Wendover, Que., copper ores in, (1863) p. 243.
- Huronian, description of, (1863) p. 594.
- Newfoundland, section of, in Pistolet Bay, Nfld., (1863) p. 875.
- Silurian, in Potton Tp., Que., (1863) p. 250.
- beds of, near St. Stephen, N.B., (70-71) p. 32.
- St. Flavien, Que., copper ores in, (1863) p. 242.
- St. Flavien and Wendover, Que., copper-bearing, (1863) p. 719.
- Lake Superior, analyses of, (1863) p. 605.
- Silurian, examples from eastern section, (1863) p. 602.
- Silurian, analysis of specimens from Upton and Acton, Que., (1863) p. 604.
- Diorite interstratified with Upper Silurian, N.B., (70-71) p. 166.
- Diorite in beds, need of distinctive names, localities cited, (73-74) p. 198.
- Dioritic granite, mouth of Cumshewa Inlet, Q.C.Is., (78-79) p. 77 B.
- Dioritic rocks of north shore, Burnaby I., Q.C.Is., (78-79) p. 57 B.
- of Ottawa River, below Lac des Quinze, (72-73) pp. 116-117.
- Victoria mine, Garden River, Ont., (76-77) p. 212.
- Dioritic schists in Huronian belt, near Wabigoon Lake, Ont., (80-82) pp. 12-13 C.
- Dip and strike of Laurentian rocks, North Hastings, Ont., (63-66) p. 96.
- Diphyphyllum*, Sp. from below Cañon of Peace River, (75-76) p. 102.

- Diphyphyllum Archiaci*, Billings, wood-cut of, (1863) p. 383.
- Dipper Harbour, N.B., rocks of, (70-71) p. 95.
conglomerates of Perry Group, (70-71) p. 203.
limestones for making lime, (70-71) p. 232.
structure resembling arragonite, (70-71) p. 237.
- Dipper Harbour road, N.B., Huronian rocks exposed near coast, (70-71) p. 95.
- Diptera* of Tertiary beds of Quesnel, B.C., (75-76) pp. 270-278.
description of, from Tertiary beds of Similkameen River, B.C., (77-78) pp. 176-178 B.
- Direct methods of refining ore, malleable iron, advantages of, (66-69) E. p. 274, F. p. 302.
- Direct process of making bloom-iron from ore, (66-69) E. pp. 288-293, F. pp. 318-323.
- Direction of movement of drift on plains of N.W.T., (74-75) p. 42.
- Dirt Hills, Assa., R. Bell's course from Old-wives Lakes to, hummocky country, fissure cracks, position of hills, general geological description of, (73-74) pp. 76-78.
analysis of clay ironstone, (73-74) p. 241.
analyses of lignites from, (73-74) pp. 90-92.
to Woody Mountain, Assa., description of country, (73-74) p. 79.
to Qu'Appelle, general character of country, (73-74) p. 80.
- Dirty-seam, Lorway west pit, Glace Bay, N.S., section, (74-75) p. 222.
- Discina Circe*, Billings, wood-cut of, (1863) p. 159.
- Discina Pelopea*, Billings, wood-cut of, (1863) p. 159.
- Diseases of Haida Indians of Queen Charlotte Is., (78-79) p. 105 B.
- Dishes and vessels used by Haida Indians, (78-79) p. 140 B.
illustrations *see* plates, IX., XII., XIII., (78-79) B.
- Disseminated graphite, from French Vale, N.S., analysis of, (79-80) pp. 1-2 H.
Glendale, N.S., analysis of, (78-79) p. 2 H.
- Distance from Edmonton, Alta., to Athabasca Landing, (79-80) p. 86 B.
- Distances on Athabasca River from Great Bend, table of, (82-84) p. 12 CC.
on Athabasca River, below Fort McMurray, (82-84) p. 20 CC.
from Kamloops to points on North Thompson and Moose rivers, B.C., (71-72) p. 48.
between Smoky River and Quesnel, B.C., table of, (75-76) p. 86.
travelled by A. R. C. Selwyn's party in 1875, (75-76) p. 68.
table of, (75-76) p. 86.
- Distillation of peat, Reece's process, Paul's experiments, (1863) pp. 776-780.
- Distribution of Carboniferous Formation in Ont., (1863) p. 364-379.
- Distribution—*Cont.*
of publications of Survey for 1879, (78-79) p. 6.
of quartzite shingle in Southern Alberta, (82-84) p. 141 C.
of specimens and reports to educational institutions, etc., for 1877-78, (77-78) p. 9.
of the more important trees of British Columbia, note on, with an accompanying map, (79-80) pp. 167-177 B.
- Disturbed belt east of Rocky Mountains, width of, (80-82) p. 3 B.
- Disturbances during Lower Carboniferous time in New Brunswick, (78-79) p. 18 D.
on West Coast after close of Triassic, (78-79) p. 46 B.
- DITTMAR, PROF. W., analyses of water of Hayes and Nelson rivers, (79-80) pp. 77-79 C.
- Diversion of streams in Southern British Columbia, (82-84) pp. 40-41 B.
- Divisions α , β , γ and δ of Lignite Tertiary of Bad Lands, N.W.T., general section, (79-80) pp. 33-35 A.
- Divisions of pre-Cambrian rocks of Northern New Brunswick, summary of characters and extent of, (78-79) pp. 2-6 D.
- DIXON, CAPT., note on voyage of, to Queen Charlotte Islands in 1787, named islands, (78-79) p. 9 B.
- Dixon Entrance, Q.C.Is., note on *Ophiuroidea* from, (78-79) p. 191 B.
description of *Diatyloopsis Dawsoni*, Smith, from, (78-79) pp. 215-217 B.
- Dixon's account, of natives of Q.C.Is., first visit in 1787, (78-79) pp. 154-156 B.
of visit to Skidegate, Q.C.Is., number of Indians, trade, etc., (78-79) p. 166 B.
of village on Hippah Island, Q.C.Is., (78-79) p. 170 B.
- Dixon's estimate of population of Queen Charlotte Islands, (78-79) p. 171 B.
- Doaktown, N.B., coal seams on Main South-west Miramichi River, (80-82) p. 5 D.
- Dochart River, Ont., heavy-spar at mouth of, (1863) p. 458.
- Doctor Pit, Templeton, Que., analysis of apatite from, (77-78) pp. 8-10 H.
- Dodd Narrows, near Nanaimo, B.C., sandstones of, (71-72) p. 85.
reported coal seams near, (71-72) p. 86.
list of fossils from, (73-74) p. 264.
new species of fossils from, description of, (73-74) p. 268.
rocks of, (76-77) p. 174.
- DODDS, JOS., practical trial of coal from Reserve mine, N.S., on steam-collier, (72-73) p. 271.
- DODWELL, C. E. W., work of 1873, assistant to W. McOuat, (73-74) p. 161.
- Dog Brook, N.S., falls of, (76-77) p. 439.
- Dog-fish, industry for extracting oil, Skidegate, Q.C.Is., (78-79) p. 44 B.

- Dog Island, Richardson Inlet, Q.C.Is., small harbour near, (78-79) p. 25 B.
Hudson Bay, gold found in dolerite of, (77-78) p. 20 C.
- Dog Island, Lake Nipigon, Ont., trap rocks of, (66-69) E. p. 348, F. p. 385.
red quartzite found on, (71-72) p. 103.
- Dog Lake, lead vein opened near Battersea, Ont., (70-71) p. 314.
- Dog Lake Kaministiquia River, Ont., gneiss area reaching to, (1863) p. 48.
description of, height, timber, supply of birch bark for canoes, (1863) p. 64.
rocks of, (66-69) E. p. 326, F. p. 360.
terraces of sand and gravel, (66-69) E. p. 353, F. p. 391.
- Dog Lake trail, Ont., junction of Laurentian and Huronian on, (66-69) E. p. 327, F. p. 361.
Huronian rocks near Thunder Bay, (66-69) E. p. 329, F. p. 363.
- Dog River, Ont., granite at, (63-66) p. 119.
description of greenstone slates of, (63-66) p. 126.
- Dog Rump Creek, west of Fort Pitt, N.W.T., depth of valley, absence of limestone boulders near, (73-74) p. 36.
- Dog-tooth Lake, near Wabigoon, Ont., band of hornblende-schist, (80-82) p. 13 C.
- Dog-tooth spar, *see* Calc-spar.
abundant in Niagara Formation, (1863) p. 455.
- Dog-wood of British Columbia, note on, (79-80) p. 177 B.
- Dogs domesticated by Haida Indians, appearance of, (78-79) p. 115 B.
- Dog Cave, Roberts Bay, Ont., limestone in, (76-77) p. 207.
- Dog Cove Inlet, Ont., crystalline limestone band of, (76-77) p. 196.
- Doherty Brook, Black Brook, Victoria Co., N. S., syenite rocks, (82-84) p. 18 H.
- Dolerite, general characters of, (1863) p. 650.
various ages of distinct eruptions of in Canada, Silurian and older and newer, (1863) p. 668.
for building stone, note on, (1863) p. 812.
of Bay of Chaleurs, relation of to Silurian and Devonian rocks, (80-82) pp. 17-18 D.
cutting Devonian rocks on Cascapedia River, Gaspé, (82-84) p. 33 E.
of Grenville, Que., analysis of, (1863) p. 653.
various ages of, analysis of newer, (1863) p. 653.
further details of tracing of outcrop of dykes, (1863) p. 839.
of Joes Point, N.B., interstratified with Perry sandstones, (70-71) p. 201.
intrusions in Laurentian, general description of, (1863) pp. 37-39.
of Montarville, Que., descriptions of varieties, olivine or peridotite, analysis of, (1863) pp. 665-666.
- Dolerite—*Cont.*
of Mount Royal, Que., general description with notes on varieties, marks of flow in, (1863) p. 667.
of intrusive masses in Palæozoic rocks of Ontario and Quebec, (1863) pp. 665-668.
of Ottawa Co., Que., apatite bearing rocks, (77-78) p. 3 G.
of Ramsay and Tar islands, Q.C.Is., volcanic agglomerate, (78-79) p. 60 B.
of Rougemont, Que., description of dykes cutting, (1863) p. 667.
of St. Ignace I., Ont., marks of flow in, wrinkles on surface at, (1863) p. 72.
of York and Carleton Cos., N.B., (82-84) pp. 26-27 G.
- Dolerite dyke, on Cross Lake, Nelson River, (77-78) p. 20 CC.
at Goulais Bay, Ont., (63-66) p. 120.
on Little Cascapedia River, Que., (82-84) p. 28 E.
in channel of Nelson River, upper part. (77-78) p. 15 CC.
at Perkins Mill, Que., cutting quartzite, wood-cut showing, (77-78) p. 4 G.
on Salmon Branch, Gaspé, Que., at falls on, (82-84) p. 27 E.
- Doleritic amygdaloid overlying conglomerate on Nerepis River, N.B., (72-73) p. 188.
- Doleritic dyke, North Burgess Tp., Ont., compared to Grenville dykes, (72-73) p. 169.
- Doleritic sandstone on Cumberland Creek, Grand Lake, N.B., (72-73) p. 213.
trap dykes in Gaspé, on streams near Shick-shock Mountains, note on, (82-84) p. 21 F.
- Dolichopodidæ* of the Tertiary beds of Quesnel, B.C., (75-76) p. 272.
- Dolins Lake, Simmonds Tp., N.B., norite rocks of, (70-71) p. 41.
crystals of hypersthene and labradorite, (70-71) p. 238.
- Dolomite, origin of, (1863) p. 575.
description and note on distribution of, in Ontario and Quebec, (1863) p. 456.
with hematite, note on occurrence of, (73-74) p. 221.
replaced by diorite holding serpentine, (63-66) p. 40.
quartzose and tremolitic, lowest division of Horton limestone band, Ont., (76-77) p. 263.
of Calciferous Formation, general note on, analysis of, from Rigaud, Que., (1863) p. 619.
of Chazy Formation, analysis of specimens from Nepean Tp., Ont., and from Montreal, Que., (1863) p. 619.
of Galena Formation with excess of magnesia, (1863) p. 623.
of Guelph Formation, general note on character of, (1863) p. 338.
in Laurentian, general note on, (1863) p. 24, and (63-66) p. 201,
analyses of, from Ontario, (1863) pp. 592-593.

Dolomite—*Cont.*

- of Niagara and Guelph Formations, note on examinations made of, (1863) p. 624.
- of Onondaga Formation, analyses of casts of salt crystals in, (1863) p. 625.
- of Quebec Group, general note on southwestern basin, (1863) p. 243.
- general description of, with analyses, (1863) pp. 613-615.
- of Trenton Formation exposed on Lacloche Island and peninsula, Ont., (1863) p. 194.
- replacing fossils, examples of, (1863) p. 620.
- in Wisconsin and Iowa, U.S., lead bearing, (1863) p. 623.
- from Bagot Tp., Ont., ferruginous, and with tremolite, (76-77) p. 250.
- from Blackwater River, B.C., with cupreous stains, in rocks of Upper Cañon, (75-76) p. 249.
- of Cape Dauphin, N.S., from below Coal Measures, analysis and examination of, (73-74) pp. 174-175.
- from Coboconk, Ont., analysis of, (82-84) pp. 1-2 MM.
- from Dundas, Ont., analysis of, (76-77) p. 487.
- in Goderich boring, Ont., (76-77) p. 227.
- from Grimsby, Ont., analysis of, (76-77) p. 486.
- of Lanark, Ont., with tremolite, general description and analysis of, (74-75) p. 141.
- from Levant Tp., Ont., (76-77) pp. 252-253.
- at Lobster Bay, Que., thin seam, (66-69) E. p. 306, F. p. 338.
- from Little Metis, Que., analysis of, (76-77) p. 487.
- in Manitounuck Group, Hudson Bay, (77-78) p. 23 C.
- from McNab Tp., Ont., analysis of, (76-77) p. 487.
- on Nelson River, exposures of, fossils, (77-78) p. 12 CC.
- at Ottawa, replacing fossils, examples of, analysis of from *Orthoceras*, (1863) p. 457.
- of Palmerston Tp., Ont., white crystalline, analysis of, (74-75) p. 132.
- from Rigaud Tp., Que., analysis of, (74-75) p. 311.
- from Rocky Mountains, assay for gold and silver, (80-82) p. 15 H.
- from Rougemont, Que., altered, analysis of, (1863) p. 635.
- from Sutton, Que., analysis referred to, (77-78) p. 38 G.
- in Southern New Brunswick, localities of occurrence of, (70-71) p. 237.
- in Sheffield Tp., Ont., (63-66) p. 94.
- of Tenants Cove, Kars and Pascabec rivers, N.B., (70-71) p. 232.
- near Thunder Bay Mine, Ont., (66-69) E. p. 326, F. p. 359.
- and limestone, Marmora, Ont., carrying gold, (71-72) p. 131.
- Dolomite band between Medina and Clinton, north-west from Owen Sound, Ont., fossils in, (1863) pp. 318-320.
- Dolomite and slate group, Lanark, Ont., resemblance to Huronian, (74-75) p. 130.
- similarity to division B, Hastings Series, (74-75) p. 130.
- general characters, sequence of beds, (74-75) p. 131.
- distribution of, (74-75) pp. 132-135.
- see also* Pearl spar.
- Dolomite Narrows, Burnaby Str., Q.C.Is., depth and width of channel, (78-79) p. 19 B.
- Dolomitic conglomerate of St. Helens Island, Ste. Anne and Mount Calvaire, Que., chemical and mineral peculiarities, (1863) p. 626.
- Dolomitic limestone of lower part of Churchill River, (78-79) p. 18 C.
- from Selkirk, Manitoba, specific gravity, absorbing power and analysis, (82-84) p. 1 MM.
- Dolomitic slates in Stanbridge Tp., Que., exposures of near Wallbridge Mills, (1863) p. 853.
- Dominion salt works, Goderich, Ont., yield of, (66-69) E. p. 223, F. p. 246.
- Domville Island, B.C., coal on, (76-77) p. 188.
- Don River, Ont., exposures of Hudson River Formation and fossils of, noted, (1863) p. 213.
- fresh water shells found above Lake Ontario in sand deposits, (1863) p. 914.
- Donahue vein, Lake Tp., Hastings, Ont., galena locality, (66-69) E. p. 163, F. p. 181.
- DONALDSON, ROBERT, information given by, (63-66) p. 24.
- Donaldson Lake, Buckingham, Que., graphite of, (63-66) p. 24.
- Donaldson River, Comox, B.C., note on timber and soil, (73-74) p. 102.
- section near, (76-77) p. 165.
- Donations to museum of Survey, (82-84) pp. 18-20, 22.
- Donegal settlement, Waterford Tp., N.B., syenite and diorite replacing petrosilex series, (77-78) p. 17 DD.
- Donnelly's lot, lot 16, R. V, North Burgess, Ont., excavations for apatite on, (70-71) p. 319.
- Doorway posts, Haida villages, Q.C.Is., (78-79) p. 148 B.
- Dorchester, Westmoreland Co., N.B., deposit of copper ore in Millstone Grit, (77-78) p. 12 D.
- Dorchester Corners, N.B., note on copper ore deposits, (80-82) p. 23 D.
- Dorchester Co., Que., geological map on scale of 8 m. = 1 in., (66-69) E. p. 119, F. p. 133.
- for general geology see also Part I, p. 8.*
- Doré River, Lake Superior, section of slate conglomerates at mouth of, (1863) pp. 53-54.
- copper bearing veins in granite, (1863) p. 694.
- slate conglomerate, lithological characters, (63-66) p. 127.

- Dorrington Hill, Canterbury, Carleton Co., N. B., Cambro-Silurian rocks of, (82-84) p. 14 G.
note on limestones of, (82-84) p. 30 G.
- Dortons Bridge, Inverness Co., N.S., conglomerate and limestone, (79-80) p. 53 F.
Plaster Cove rocks exposed near, (79-80) p. 95 F.
- Double-headed Mountain, valley of Chilacco River, B.C., (76-77) p. 53.
- DOUGLAS, CAPT., voyage to Queen Charlotte Islands in 1788, (78-79) p. 10 B
account of visit to Q.C.Is., (78-79) pp. 157-160 B.
- DOUGLAS, DR. JAMES, workings for gold on Guillaume River, Que., (83-86) p. 55.
- Douglas Channel, B.C., hornblende and mica-schists of Kit Kiatlah Bay, (74-75) p. 78.
- Douglas fir, notes on eastern limit near McLeod Lake, B.C., (75-76) p. 138.
appearance of, on Salmon River, B.C., (76-77) p. 31.
of British Columbia, note on range of species, lumber and timber supply from, (79-80) pp. 168-169 B.
- Douglas Harbour, Grand Lake, N.B., list of fossil plants from, (72-73) p. 207.
exposures on shores of, (72-73) p. 211.
- Douglas Harbour, Moore Channel, Moresby Is., B.C., description of, (78-79) p. 41 B.
- Douglas Portage, B.C., assay of quartz from, (78-79) p. 24 H.
- Douglas Lake, B.C., altered argillites of plateau near, (77-78) p. 79 B.
- Douglas Mountain, Southern New Brunswick, granites of, (70-71) p. 183.
- Douglas seam, Nanaimo, B.C., thickness of, (76-77) pp. 176-177.
- Douglas Valley, N.B., intrusive granite of, (70-71) p. 183.
pre-Carboniferous rocks of, the dark argillite series, (70-71) p. 192.
- Douglstown, Gaspé, Que., petroleum spring near, note on, (1863) p. 403.
oil spring referred to, new spring near lagoon, (1863) p. 521.
- Douglstown anticline, Gaspé Bay, course of, beds exposed by, (1863) p. 399.
effect of on Gaspé Series, (1863) p. 410.
comes out on coast at Percé, not at Point Peter, (1863) p. 885.
- Douglstown lagoon, Gaspé, Que., oil spring reported, well bored, (1863) p. 789.
- Douglstown River, Gaspé, Que., the Gaspé sandstones at, (1863) p. 396.
exposures of Gaspé Series on, (1863) pp. 409-410.
petroleum reported on, (1863) p. 789.
- Douglstown Map-sheet, part of Gaspé Co., Que., issued in 1884.
- Douro Tp., Peterborough Co., Ont., the Trenton escarpment in, (1863) p. 189.
- Dover and Stony Creek, N.B., rocks of, (76-77) p. 370.
- Dow, Wm. & Co., report on sample of British Columbia hops, (71-72) p. 97.
- Dowager Islands and others in Millbank Sound, B.C., rocks of, (74-75) p. 76.
- Downs Rapids, Moira River, Ont., occurrence of magnetic iron-ore, (66-69) E. p. 152, F. p. 169.
- Drainage channels, old, significance of, on great plains of N.W.T., (82-84) p. 150 C.
- Drainage, in coal mines, Mr. Rutherford on, (72-73) pp. 292-293.
in Block House mine, N.S., (72-73) p. 280.
in Emery mine, N.S., (73-74) p. 187.
in Gowrie mines, N.S., (72-73) p. 286.
in International mine, N.S., pumps used, (72-73) p. 259.
in Lingan mines, N.S., (72-73) p. 251.
- Dress of Haida Indians of Q.C.Is., (78-79) pp. 106-109 B.
- Drift, fossiliferous limestone boulders from north-eastwards, (70-71) p. 349.
limestone, of Lake of the Woods, note on possible origin of, (74-75) p. 43.
- Drift deposits, in Belly Valley at Coal Banks Crossing, Alta., illustration showing bluffs of, (82-84) facing p. 140 C.
between Blackwater and Quesnel, B.C., (76-77) p. 19.
- Blackwater River, B.C., thick covering of, on high country north of, (76-77) p. 23.
in Bonnechere Valley, Ont., (76-77) p. 258.
of Central British Columbia, general composition, (75-76) p. 262.
at Fort Carlton, N.W.T., thickness of, in bore-hole, (75-76) p. 284.
near McLeod Lake region, B.C., origin of, (79-80) p. 138 B.
- Nelson River and boat-route, composition of, (77-78) p. 24 CC.
of Nelson River, lower part, origin of, (78-79) p. 23 C.
- of North Saskatchewan River valley, (73-74) pp. 57-58.
- of North-west Territories, on plains, composition of, direction of movement, (74-75) pp. 41-42.
thickness in river valleys, (74-75) p. 47.
on plains west of Winnipeg, of rock-débris from north-east, (73-74) p. 86.
at Nottingham Island, Hudson Strait, notes on, (82-84) p. 29 DD.
- of Okanagan Lake, B.C., diagram of, (77-78) p. 143 B.
- in Ontario, depth of, on watershed between Lakes Simcoe and Ontario, (1863) pp. 12-13.
- of Peace River country, fragments of Devonian rocks found, on plains in, (79-80) p. 131 B.
- at Pic River, Ont., from Hudson Bay, fossiliferous limestone, (70-71) p. 349.
- at Pictou, N.S., containing boulders of Millstone Grit, (66-69) E. p. 62, F. p. 69.

- Drift deposits—*Cont.*
 of Vancouver I., B.C., southern part, (71-72) pp. 93-95.
 of Notre Dame Mountains, Que., auriferous, note on, (1863) p. 929.
 modified, in Southern New Brunswick, (77-78) pp. 10-32 EE.
 stratified, table of superficial deposits in Canada, (1863) p. 887.
 stratified, in Vermont, highest found, (1863) p. 929.
 unstratified, general discussion of, in Ontario and Quebec, (1863) pp. 893-896.
- Drift-Barrier to Kes-la-chick River, B.C., (76-77) p. 40.
- Drift clays on Abitibi River, marine shells and mammoth bones found, (77-78) p. 37 C.
- Drift lignite on streams in central British Columbia, Nazco, Blackwater and Fraser rivers, (75-76) pp. 255-256.
- Drift plants forming small coal seam, (66-69) E. p. 11, F. p. 12.
- Drift sand, in Horton Tp., Ont., (76-77) p. 261.
 in Ross Tp., Ont., (76-77) p. 266.
- Drift-dammed channels on Aroostook and Tobique rivers, N.B., (82-84) p. 14 GG.
- Drift-filled channel between Oromocto and Kedron lakes, N.B., (82-84) p. 18 GG.
- Drift-pile Camp, Athabasca River, view looking down, illustration, (79-80) facing p. 80 B.
 latitude observations taken at, by G. M. Dawson, 1879, (79-80) pp. 160-161 B.
 longitude observations taken at, by G. M. Dawson, (79-80) p. 163 B.
- Driftwood Bend, Belly River, Alta., workable coal seam at, (82-84) p. 75 C.
 analysis of peat from interglacial deposits, (82-84) p. 144 C.
 section of drift deposits with diagram, (82-84) p. 144 C.
- Drill, diamond, description of, and method of working, (72-73) pp. 234-236.
- Drowned Rapid, Athabasca River, fossils found at, first exposure of tar sandstone, (82-84) pp. 14-15 CC.
- DRUMMOND, A. T., reference to map by, showing northern limits of trees of Canada, (79-80) p. 39 C.
- Drummond coal, practical trials of, on locomotive, (66-69) E. p. 407, F. p. 451.
 practical trial of, on Quebec steamers, (66-69) E. p. 422, F. p. 470.
 practical trial of, on ocean steamers, (66-69) E. p. 423, F. p. 470.
 value of, for gas production, (66-69) E. p. 386, F. p. 428.
 value of, for steam production, (66-69) E. p. 386, F. p. 428.
 gas trial of, at Pictou, N.S., (66-69) E. pp. 434-437, F. pp. 484-488.
- Drummond Colliery, N.S., black shales above coal, fossils of, (66-69) E. p. 80, F. p. 89.
- Drummond Colliery, N.S.—*Cont.*
 description and analysis of benches of Acadia seam, (66-69) E. pp. 382-386, F. pp. 424-428.
- Drummond Colliery wharf, Middle River, Pictou, N.S., (66-69) E. p. 102, F. p. 114.
- Drummond Co., Que., notes on general geology of, see *Part I*, p. 8.
- Drummond Island, Lake Huron, Niagara Formation of, fossils found in, (1863) p. 333.
 Hudson River rocks on, (1863) p. 219.
 topography and geology of, (66-69) E. pp. 109-117, F. pp. 123-132.
 physical description, (66-69) E. p. 110, F. p. 124.
- Hudson River and Clinton Formations of, (66-69) E. p. 113, F. p. 127.
- Niagara Formation on, section at Marble Head, (66-69) E. p. 115, F. p. 129.
 map of, on scale of 8 m. = 1 in., (1863) Atlas.
- Drummond Tp., Ont., analysis of labradorite from, (1863) p. 479.
 gneiss and limestone series in, (74-75) p. 155.
 submerged lands, (74-75) p. 156.
- Drummondville, Que., sandstones of Quebec Group, diorite dykes in, (1863) p. 243.
 coal-like matter in rocks of Quebec Group, (1863) p. 525.
 diorite of, in part amygdaloidal, (1863) p. 603.
 diorite carrying copper ore developed near, (1863) p. 718.
- Drurys Cove, Kennebecasis Bay, N.B., Primordial rocks of, (70-71) p. 40.
 St. John Group, section at, (70-71) p. 140.
- Drusy cavities in apatite-bearing veins, Ottawa Co., Que., (77-78) p. 7 G.
- Dry Valley near Calgary, Alta., (82-84) p. 31 C.
- Dry valleys in Southern Alberta, (82-84) p. 14 C.
- Drying up of lakes in N.W.T., (74-75) p. 53-54.
- Du Brochet Post, Reindeer Lake, rocks at, climate, date of passage of reindeer south, (79-80) p. 15 C.
- Du Chien Lake, Okanagan Valley, B.C., description of, terraces, country north of, dam formed by "fans," formations represented, (77-78) p. 54 B.
 representatives of white silt deposit on, (77-78) p. 144 B.
- Duck Cove, St. John Harbour, N.B., fossils from, thickness of sandstone, (70-71) p. 173.
 section of Leda clay at, organic remains in, (77-78) p. 24 EE.
- Duck Creek, B.C., placer workings, (76-77) p. 137.
- Duck Deer Rapid, Abitibi River, Ont., rocks at, (77-78) p. 37 C.
- Duck Lake, English River, Ont., course across to outlet of, (72-73) p. 11.
- Duck Lake, near Okanagan Lake, B.C., (77-78) p. 56 B.

- Duck Mountain, Man., explorations on west side of, by R. Bell, (74-75) pp. 30-32.
- Duck Islands, Lake Huron, gypsum reported on, islands covered by drift, (1863) p. 352.
- Dudswell, Que., striped marble at, referred to, fossils found in limestone, (1863) pp. 432-433.
dolomitic breccias in rocks at, (1863) p. 456.
analysis of limestone from, (1863) p. 617.
limestone burned for lime, (1863) p. 803.
- Dudswell Tp., Que., Quebec Group and Gaspé Series in, (1863) p. 431.
note on marbles of, (1863) p. 827.
rocks in, suitable for flagstones, (1863) p. 828.
- Dufferin Co., Ont.
note on general geology of, see *Part I*, p. 12.
- Dugald Brook, N.S., section of pre-Carboniferous rocks in, (76-77) p. 413.
fossils in, (76-77) p. 414.
- Du Liard River, B.C., gold workings on, (76-77) p. 140.
- Dumbarton Parish, N.B., kames and ridges in, (77-78) p. 13 EE.
- Dumbarton Ridge, N.B., metamorphic rock, (76-77) p. 328.
- Dumfries settlement, Gloucester Co., N.B., character of Cambro-Silurian rocks of, (79-80) p. 23 D.
- Dumfries Tp., Ont., exposure of summit of Guelph Formation at Middleton bridge, fossils found, (1863) p. 338.
exposures of Onondaga Formation near Galt, (1863) p. 351.
- Dummer Tp., Ont., vein of albite in Laurentian, (1863) p. 36.
the Trenton escarpment in, (1863) p. 189.
locality mentioned for heavy-spar, (1863) p. 458.
ornamental stone, description referred to, (1863) p. 833.
- Dunbar Brook, Inverness Co., N.S., Lower Carboniferous conglomerates, (82-84) p. 40 H.
- Dunbarton, Charlotte Co., N.B., pre-Carboniferous rocks, the dark argillite series, (70-71) p. 196.
- DUNCAN, CAPT., note on explorations of near Queen Charlotte Islands, (78-79) p. 10 B.
- Duncan Brook, Middle River, N.S., section of schists, etc., on, (82-84) p. 30 H.
- Duncan mine, Thunder Bay, assay of galena from near, (80-82) p. 14 H.
- Dundas anticline, rocks of Niagara not located on, (1863) p. 329.
- Dundas, Ont., section of Clinton strata on Sydenham road, (1863) p. 313-314.
building stone obtained from gray band, sandstone, (1863) p. 316.
section of Niagara Formation in Flamborough West, fossils found, (1863) pp. 325-326.
travertine from springs, (1863) p. 455.
- Dundas, Ont.—*Cont.*
crusts of epsom salts on outcrops of dolomite, (1863) p. 460.
clay used as fire-clay in foundries, found at, (1863) p. 802.
reference to quarry in sandstone of gray band, (1863) p. 815.
clays for white bricks found at, (1863) p. 898.
note on superficial deposits of, (1863) p. 903.
old elevated beaches of Lake Ontario, behind, height of, (1863) p. 814.
analysis of dolomite from, (76-77) p. 487.
- Dundas Co., Ont., for note on general geology see *Part I*, p. 12.
- Dunes of sand formed in Augusta and Oxford Tps., Ont., and between Ottawa and Prescott, Ont. (1863) p. 924.
on south side of Lake Superior, at Grand Sable and Whitefish Point, (1863) p. 905.
- Dungarvon, N.B., stratigraphical position of coal seams at, (80-82) p. 6 D.
- Dungarvon River, S.W. Miramichi River, N.B., outcrop of impure coal noted, (80-82) p. 5 D.
Lower Carboniferous rocks wanting in section on, (80-82) p. 9 D.
the Cambro-Silurian rocks on, (80-82) p. 16 D.
- Dunham Tp., Que., exposure of limestone similar to that of Farnham, (1863) p. 287.
copper localities in, (63-66) p. 297.
- Dunite, rocks from Mount Albert, Que. resembling, microscopic description with wood-cut diagrams, (77-78) pp. 40-41 G.
- Dunn Tp., Ont., character of Oriskany sandstone, (1863) p. 360.
- Dunsinane, N.B., coal discovered at, (71-72) p. 144.
Middle Carboniferous rocks at, (72-73) p. 216.
seam of impure coal at, (78-79) p. 20 D.
- Dunsmuir coal mine, Departure Bay, B.C., seams at, (71-72) p. 82.
analysis of coal, (71-72) p. 99.
- Dunstan's cylinder furnace, description and figure of, (71-72) p. 135.
- Dunvegan, Peace River, N.W.T., arrival of A. R. C. Selwyn at, (75-76) p. 55.
sands and gravels possibly Lignite Tertiary, in cliffs behind, (75-76) p. 71.
view looking up river from hill behind, illustration, (79-80), facing p. 50 B.
R. G. McConnells description of country north of, (79-80) pp. 58-61 B.
H. J. Cambie's report on country westward from, (79-80) pp. 61-63 B.
Cretaceous fossils from sandstones of, (79-80) p. 119 B.
latitudes taken at and in vicinity of, (79-80) p. 159 B.
longitude observations taken at. by G. M. Dawson, (79-80) p. 163 B.

- Dunvegan, Peace River, N.W.T.—*Cont.*
to Athabasca River, routes followed by McLeod and Dawson, description of country, (79-80) pp. 63-66 B.
to Smoky River, Selwyn's Journal, (75-76) pp. 56-58.
- Dunvegan Series, of Peace River, possibly Div. III, of Selwyn, (75-76) pp. 74-77.
- Dupuis Corner, N.B., near Shediac stratigraphical position of coal seam at, (80-82) p. 6 D.
- Duquesne Tp., Rimouski, Que., Gaspé limestones exposed in, (1863) p. 418.
peat deposit noted, (1863) p. 783.
- Duration of sunlight on Peace River, (79-80) p. 78 B.
- Durham Co., Ont., note on superficial geology of, (1863) p. 895.
- Durham Tp., Grey Co., Ont., exposures of Guelph Formation on Rocky Saugeen River, (1863) p. 342.
- Durham Tp., Que., copper localities, (63-66) p. 310.
note on localities yielding copper ores, (1863) p. 718.
deposit of ochre noted, (1863) p. 769.
- Durocher, Mr., note on magnetic rocks of Scandinavia, (73-74) p. 196.
- Duties on salt in United States, effect on Canadian manufacture, (74-75) p. 270.
- Dying Portage, Pic River, Ont., topography of valley near, (70-71) p. 329.
- Dyer's Inn, Magaguadavic River, N.B., Archæan rocks on post-road, (70-71) p. 51.
- Dykes, at mouth of French River, Ont., (76-77) p. 195.
in Gaspé Series, description of, (1863) pp. 401-402.
in rocks of Gaspé Peninsula, Que., reference to descriptions of, (80-82) p. 31 DD.
of north-east shore of Georgian Bay, Ont., (76-77) p. 195.
of north-east coast of Lake Superior, (76-77) p. 218.
in labradorite rocks near the outlet of Lake St. John, Que., (82-84) p. 9 D.
in Laurentian, general note on intrusions, (1863) pp. 37-42.
cutting Laurentian of Lake Superior, (63-66) p. 120.
of vicinity of Parry Sound, Ont., (76-77) p. 195.
of vicinity of Pointe aux Mines, Lake Superior, (76-77) p. 214.
at Standing Rock Rapid, Grass River, Keewatin, description and illustration, (78-79) p. 28 C.
cutting Triassic rocks of Houston Stewart Channel, Q.C.Is., (78-79) p. 49 B.
- Dykes, of basalt, Pointe aux Mines, Ont., (76-77) p. 216.
of breccia, Meganatawan River, Ont., (76-77) p. 202.
- Dykes—*Cont.*
columnar, on François Lake, B.C., (76-77) p. 87.
of diorite, Georges Island, Killarney, Ont., (76-77) p. 208.
on Mattagami River, characters, effect on topography, (76-77) pp. 314-315.
in gneiss, Lac des Quinze, (72-73) p. 120.
of dolerite, at Grenville, Que., analysis of, (1863) p. 653.
in vicinity of Grenville and Counties of Ottawa and Argenteuil, Que., (1863) pp. 839-840.
in channel of Nelson River, near Sipiweesk Lake, (77-78) p. 15 CC.
excavated, at Mica Bay, Ont., (76-77) p. 217.
felsite, bluish-gray, near mineral spring, Glengarry Road, N.S., (76-77) p. 417.
of greenstone holding petroleum, at Tar Point, Gaspé, Que., (1863) p. 396.
trap, near Agiwa River, Lake Superior, (76-77) pp. 217-218.
vicinity of Gros Cap, Lake Superior, (76-77) p. 220.
of Mica Bay, Lake Superior, (76-77) p. 216.
of Point Brulé, Lake Superior, (76-77) p. 216.
near Rivière de la Vieille, Lake Superior, (76-77) p. 219.
in Upper Copper-bearing rocks, Lake Superior, general note on, diagram showing intersection of, on St. Ignace Is., (1863) pp. 72-74.
- Dyke Bay, Shuswap Lake, B.C., rocks of division B, (77-78) p. 98 B.
- Dyke-like sandstones, Denman Islands and Trent River, B.C., (72-73) pp. 45-46.
- Dysyntribite, description of, from Rossie, N.Y., (1863) p. 484.
from Shepard, N.Y., analyses of, (1863) p. 485.
- Eagle Cape, Anticosti, Que., section of rocks of coast at, dip of beds, (1863) p. 300.
- Eagle Cliff, N.B., Upper Silurian rocks on Fredericton post road, (70-71) p. 165.
yellowish-gray syenite of, (70-71), p. 183.
building stones of, granite and gneiss, (70-71) p. 233.
- Eagle Creek, Shuswap Lake, B.C., calcareous band, division B, (77-78) p. 97 B.
- Eagle Head, N.S., copper mines at, (76-77) p. 451.
felsites of coast, referred to, (77-78) p. 8 F.
bismuth glance, arsenical pyrites and copper ore of, (77-78) p. 28 F.
- Eagle Hill, Denbigh, Ont., granite of, (72-73) p. 142.
- Eagle Lake, Chilanco River, B.C., exposures of rocks of Cascade Series as represented at Yale, B.C., (75-76) p. 246.
- Eagle and Tatla lakes, B.C., flat area forming basin of, general description of, (75-76) pp. 237-238.

- Eagle Lake, near C.P.R., north of Rainy Lake, Ont., Laurentian and Huronian rocks of, (80-82) p. 14 C.
- Eagle Lake, Ont., iron ore deposits, mode of occurrence, character of ore, resemblance to Foley mine ore, (74-75) pp. 113-114.
- Eagle-nest Cliff, Hastings road, Ont., (66-69) E. p. 148, F. p. 164.
- Eagle Nest Point, Hudson Bay, assay of quartz from, (78-79) p. 22 H.
- Eagle River, Mich., mines on cross veins, Keeweenaw Pt., (63-66) p. 149.
- Eagle River, Ont., boundary of Huronian near Eagle Lake, (80-82) p. 13 C.
- Eagle River, B.C., location of, gold discovered on, (76-77) p. 139.
- Eardley Tp., Que., crystals of tourmaline occur in quartz veins, (1863) p. 493.
analysis of bog iron-ore from Upper Rocky Point, (73-74) p. 237.
- Eardley to Oswego, N.Y., coloured section, (1863) Atlas.
- Early trading voyages to Q.C.Is., (78-79) p. 154 B.
- Earthenware, clay for rougher grades in Quebec, note on, (1863) p. 802.
- Earthy carbonates, origin of, (1863) p. 575.
- Earthy chlorides in brines, means of removing, (74-75) p. 272.
- Easg Brook, Cape Breton Co., N.S., argillites, greenish and bluish, overlying Laurentian felsites, (77-78) p. 14 F.
- East Bay, N.S., mineral spring at, (76-77) pp. 404, 455.
Lower Silurian rocks of, (76-77) p. 432.
glacial striæ at, (76-77) p. 449.
analysis of hematite from, (76-77) p. 473.
- East Bay Chapel, N.S., Laurentian rocks at, (76-77) p. 416.
- East Bay felsites, Cape Breton Co., N.S., (75-76) p. 379.
- East Bay hills, N.S., Laurentian rocks of, (76-77) pp. 405, 415-424.
Carboniferous rocks of, (76-77) pp. 441, 446.
- East Bay road, N.S., Silurian rocks and fossils of, (76-77) p. 435.
- East Brook, Cumberland Co., N.S., rocks of, position and age, (73-74) p. 169.
- East Butte, Sweet Grass Hills, Montana, trap dykes, sequence of beds surrounding, eruptive central mass, (82-84) pp. 45-46 C.
- East coast of Hudson Bay, report on exploration by R. Bell, (77-78) pp. 1-33 C.
- East fault, Pictou, N.S., probable amount of throw, (66-69) E. p. 41, F. p. 46.
- East Middleburg, Vermont, ores used at forges, trial of iron sand, (66-69) E. p. 279, F. p. 369.
- East Mountain, Grimsthorpe Tp., Hastings, Ont., (72-73) p. 140.
- East Narrows, Skidegate Channel, Q.C.Is., width of channel, tides and depth, (78-79) p. 31 B.
note on anthracite seam at, (78-79) p. 68 B.
- East Nicolet Lake, Que., chromic iron-ore on, (1863) p. 253.
- East Pirate Harbour Brook, Guysborough, N.S., measures exposed on, (79-80) p. 42 F.
- East Point, Anticosti, Que., rocks of, (1863) p. 306.
- East River, Pictou, N.S., section of Millstone Grit above Albion mines, (66-69) E. p. 61, F. p. 67.
mouth of Coal Brook, Pictou, N.S., outcrop of $3\frac{1}{2}$ ft. seam, (66-69) E. p. 84, F. p. 94.
analysis of hematite from, (73-74) p. 226.
- East River pit, east of New Glasgow, N.S., eight-foot coal seam, (66-69) E. p. 46, F. p. 52.
seam compared with McBean eight-foot seam, (66-69) E. p. 46, F. p. 52.
- East Selkirk, Man., list of fossils from Galena limestone of, collected by R. Bell, 1880, (78-80) p. 57 C.
- Eastern Harbour, Scatari Island, N.S., Carboniferous outlier near, felsite at, (77-78) p. 7 F.
- Eastern Harbour, Cheticamp, N.S., Coal Measures near, (82-84) p. 76 H.
- Eastern New Brunswick, note on economic minerals of, (80-82) pp. 21-24 D.
- Eastern part of Sydney coal-field, N.S., map of, scale of 1 mile = 1 in. (74-75) to face p. 266.
- Eastern Townships, Que., synclinal axes of the Quebec Group in, (63-66) p. 29.
map in course of compilation, published in Walker & Miles Atlas, (74-75) p. 6.
progress of work in, for 1876, (76-77) p. 3.
diorites, probably of same age as Lake Superior, (77-78) p. 9 A.
summary of exploration in, for 1880, p. 5.
- East Main Coast, Hudson Bay, the Laurentian gneiss of, (77-78) pp. 8-9 C.
geology of, strike of rocks, general character, sections and illustrations, (77-78) pp. 8-24 C.
view of, from near Little Whale River, (77-78) p. 11 C.
gneiss rock north of Nastapoka River, (77-78) p. 18 C.
economic minerals of, (77-78) pp. 19-24 C.
notes on soil, gardens, cattle, (77-78) pp. 24-25 C.
table of temperatures of sea, rivers and air, (77-78) p. 26 C.
note on principal rivers of, (77-78) p. 27 C.
map, scale 4 miles to an inch, accompanying, (77-78) C.
note on northern limit of trees, (82-84) p. 17 DD.
- Eastmans Springs, Ont., analysis of saline water from, (74-75) pp. 318-319.

- Eastnor Tp., Ont., lake-front occupied by Medina and Clinton, (1863) p. 319.
- Eastons Corners, Ont., clay for making white bricks, (1863) p. 898.
clays of, (1863) p. 904.
- Eastport, Maine, exposures of Mascarene series at, (70-71) p. 154.
- Eastward slope of plains produced in post-glacial times, (82-84) p. 152 C.
- Easty's bridge, Nashwasis River, York Co., N.B., narrow bands of eruptive rocks, (66-69) E. p. 183, F. p. 202.
- EATON, PROF., referred to, (76-77) p. 227.
- Eatonia peculiaris*, Conrad, wood-cuts of, (1863) p. 957.
- Eaton Tp., Que., serpentine of Quebec Group exposed in, (1863) p. 433.
- Ecculiomphalus Canadensis*, Billings, wood-cut of, (1863) p. 232.
- Ecculiomphalus intortus*, Billings, wood-cut of, (1863) p. 232.
- Echimamish River, Nelson River, description of boat-route via, (77-78) p. 4 CC.
the Huronian rocks of, (77-78) pp. 20-21 CC.
to Oxford House, list of plants collected by R. Bell in 1880, (79-80) pp. 59-69 C.
- Echinus Point, Masset, B.C., deposit of boulder clay, (78-79) p. 93 B.
- Echo Harbour, Darwin Sound, Q.C.Is., sketch of, on scale of 2 knots = 1 in, (78-79) facing p. 15 B.
description of, (78-79) p. 24 B.
approach to, (78-79) p. 25 B.
fossiliferous argillites, *Monotis subcircularis*, (78-79) p. 59 B.
- Echo Lake, Ont., trials of copper lodes mentioned, (1863) p. 60.
trough of Huronian, note on, (1863) p. 61.
notes on copper ores of, (1863) p. 696.
carbonate of iron reported on, (1863) p. 508.
explored by Lount and Adams, (76-77) p. 194.
notes on geology of, (76-77) pp. 210-211.
analysis of copper ore from lot A, (78-79) p. 16 H.
- Echo Lake mine, Lake Superior, suspension of operations, (80-82) p. 17.
- Echo River, Ont., coloured section to Saginaw Bay, (1863) Atlas.
rocks of, (76-77) p. 210.
- Economic considerations respecting Pictou coal-fields, (66-69) E. p. 85, F. p. 96.
- Economic importance of coast region of Northern British Columbia, (79-80) pp. 2-5 B.
- Economic importance of the Omenica Gold District, (79-80) p. 110 B.
- Economic minerals, placed in museum of Survey 1870, (70-71) p. 11.
of Athabasca and Clearwater River valleys, (82-84) pp. 30-35 CC.
of Bow and Belly rivers, N.W.T., region in vicinity of, (82-84) pp. 127-139 C.
- Economic minerals—Cont.
of British Columbia, southern part, (77-78) pp. 153-166 B.
of Manitoulin Islands, Ont., (63-66) pp. 178-179.
of Cape Breton Island, N.S., (75-76) pp. 414-418, and (76-77) p. 449.
eastern part, (74-75) pp. 262-264.
northern part, (82-84) pp. 87-98 H.
of Cape Breton and Richmond Cos., N.S., (77-78) pp. 28-32 F.
of East Main Coast, Hudson Bay, (77-78) pp. 19-24 C.
of Frontenac, Leeds and Lanark Cos., Ont., (70-71) pp. 312-315.
of Hastings Co., Ont., reference to northern part, (63-66) p. 79, and (66-69) E. pp. 160-171, F. pp. 178-190.
of Huronian, of Lake Superior, (63-66) pp. 129-132.
of Mississini region, Que., (70-71) pp. 295-296.
of northern part of Nanaimo District, B.C., (73-74) pp. 98-102.
of New Brunswick, central part, (72-73) pp. 227-230.
of Albert, St. John and part of Kings Cos., (77-78) pp. 11-13 D.
of North-eastern New Brunswick, by R. W. Ellis, (79-80) pp. 43-47 D, and (80-82) pp. 21-24 D.
of Southern New Brunswick, by Bailey and Matthew, (70-71) pp. 222-240.
additional notes to date, (78-79) pp. 23-26 D.
of Manitoba, north-western part, notes by J. W. Spencer, (74-75) pp. 68-70.
of Ontario and Quebec, ores, peat, limestones, ornamental stones, (1863) pp. 671-835.
of Ontario, notes by H. G. Vennor, (74-75) pp. 159-165.
of Peace and Parsnip rivers, N.W.T. and B.C., (75-76) pp. 81-83.
of Richmond, Inverness, Guysborough and Antigonish Cos., N.S., (79-80) pp. 117-125 F.
of Thunder Bay and Nipigon districts, Ont., (66-69) E. p. 357-363, F. p. 395-403.
of York, Carleton and Victoria Cos., N.B., by Chas. Robb, (66-69) E. pp. 204-209, F. pp. 227-232.
of York and Carleton Cos., N.B., (82-84) pp. 27-31 G.
of Lower Carboniferous in Albert and Westmoreland Cos., N.B., (76-77) p. 384.
- Economic uses of "tar-sand" of Athabasca River, N.W.T., (80-82) p. 5 H.
- Economy of steam colliers in coal trade of Cape Breton, N.S., (70-71) p. 4.
- Economy of steam drills in apatite mines discussed, (82-84) p. 6 J.
- Eddy Cove, Strait of Canso, N.S., Devonian rocks of, (79-80) p. 41 F.
- Eddy Point, Guysborough Co., N.S., Devonian rocks at, (79-80) p. 40 F.

- Eden Mills, Ont., boring at, record of, (63-66) p. 251.
- Eden Brook, Dartmouth River, Gaspé, Que., fossiliferous strata in Gaspé limestones, (1863) p. 881.
- Edenville, N.Y., analysis of hornblende from, (77-78) p. 23 G.
- Edith Lake and River, Ashe Inlet, Hudson Strait, trout reported in, (82-84) p. 25 DD.
- Edmonton, Alta., position of, Hector's description of valley at, (73-74) pp. 37-38.
section of bank of river at, by Dr. Hector, thin seams of coal, soap-clay, (73-74) p. 38.
assay of clay iron-ore and analysis of soap clay, (73-74) p. 64.
grain and root crops of 1875, yield, (75-76) p. 289.
analysis and calorific power of lignite from, (82-84) pp. 14-15 M.
to Athabasca Landing, distance, description of country, (79-80) p. 86 B.
to Carlton, N.W.T., notes by A. R. C. Selwyn, (73-74) p. 42.
to Fort Assiniboine, character of country along trail, (79-80) p. 94 B.
to Rocky Mountain House, notes by A. R. C. Selwyn, (73-74) p. 39.
to Athabasca Landing and part of river, map on scale of 8 m. = 1 in., Sheet III, (79-80) B.
- Edmonton coal beds, probable age of, (73-74) p. 50.
note by J. W. Dawson on fossil plants, (73-74) p. 51.
- Edward Mahans Coulée, Alta., rocks of, (82-84) p. 51 C.
- Edward Island, north of Point Porphyry, Lake Superior, grits and conglomerates interstratified with traps, (1863) p. 78.
veins of calc-spar, copper-ore, (1863) p. 707.
- Edwards pits, Sydney mining district, N.S., Collins area, section of Indian Cove seam, (74-75) p. 237.
analysis of coal from, (74-75) p. 240.
- Edwards seam, section of on Little Bras d'Or, N.S., (74-75) p. 238.
section in Boulardie district, (74-75) p. 244.
- Edwardsburgh Tp., Grenville Co., Ont., the Calciferous Formation, exposures of in, (1863) p. 118.
higher part covered by sand, (1863) p. 924.
- Eel Brook, Indian River, N.S., rocks of, (82-84) p. 15 H.
- Eel Lake, Ont., exposures of magnesian limestones at, (73-74) p. 109.
- Eel Lakes, York Co., N.B., surface geology of basins of, (82-84) p. 17 GG.
- Eel River, St. John River, N.B., kame at mouth of, (82-84) p. 22 GG.
- Eel River kame, Western New Brunswick, connection with other kames, (82-84) p. 27 GG.
- Effect of long daylight in Europe and America, (79-80) p. 78 B.
- Effingham Tp., Ont., red granites in, (72-73) p. 142.
- Egg Lake, N.W.T., near Fort Pitt, note on size and position, (73-74) p. 36.
- Egmont Bay, P.E.I., rocks of, (82-84) p. 14 E.
- Eichwaldia subtrigonalis*, Billings, wood-cuts of, (1863) p. 142.
- Eight Mile Creek, Thompson River, B.C., width and flow of, (77-78) p. 14 B.
- Eighteen-foot coal seam, North Saskatchewan River, description and view of, (73-74) facing p. 49.
- Eighty-nine mile stable, Thompson River, B.C., morainic deposit, (77-78) p. 150 B.
- Eklogite, composition of rock called, (1863) p. 651.
- Elæolite with nephelene, found on Pie Island, Lake Superior, (1863) p. 480.
- Elateridæ* ? sp., from Nicola River, B.C., Tertiary beds, (77-78) p. 181 B.
- Elbow River, Alta., character of country drained, lumber, (82-84) p. 31 C.
Porcupine Hill beds near Calgary (82-84) p. 82 C.
sandstones and shales, note on further explorations on, (82-84) pp. 106-107 C.
diagramatic section showing attitude of beds in disturbed belt, (82-84) facing p. 106 C.
- Elbow of North Saskatchewan River to Fort a la Corne, Sask., character of valley of river, (73-74) p. 51.
- Elbow of South Saskatchewan River, distance from Fort Qu'Appelle, loose pieces of lignite, (73-74) p. 74.
- Elder Brook silver mine, North River of St. Annes, N.S., note on, (82-84) p. 14 H.
- Elderslie Tp., Ont., exposures of Onondaga at Paisley, (1863) p. 351.
- Eldorado, Ont., dolomite in vicinity of, (66-69) E. p. 154, F. p. 171.
- Elephant, fossil remains of, from post-Tertiary deposits, wood-cuts of, (1863) pp. 966-967.
remains found in gravel terrace on Thompson River, B.C., (82-84) p. 37 B.
- Elephas primigenius* found in valley of Shell River, Man., (74-75) p. 63.
- Elevation and plan of Haida Indian houses, (78-79) plate XIV, B.
- Elevation, changes in, on Q.C.Is., facts showing, (78-79) pp. 94-96 B.
to which Laurentian and Huronian erratics are carried in Southern Alberta, (82-84) pp. 147-148 C.
of places in Southern Alberta, note on, (82-84) p. 4 C.
of mouth of Atunatche River, B.C., (79-80) p. 36 B.
of mouth of Little Churchill River, (78-79) p. 17 C.

Elevation—Cont.

- of lakes north of Lake Superior, (70-71) p. 335.
- of lakes in Winnipeg basin, (74-75) p. 49.
- of hills in Southern New Brunswick, (70-71) p. 16.
- of Shuswap Lake, B.C., (77-78) p. 23 B.
- of terraces, eastern edge of Rocky Mountains, (82-84) p. 146 C.
- of country between West-road River and Nechacco River, B.C., (75-76) p. 32.
- of various places passed by A. R. C. Selwyn above Kamloops, 1871, (71-72) p. 48.
- see also* Height above sea level.

Elevations in vicinity of Bow and Belly rivers, general note on, (82-84) pp. 7-8 C.

- list of (82-84) pp. 153-156 C.
- list of along International boundary line, B.C., (82-84) p. 9 B.
- in British Columbia, given in A.R.C. Selwyn's report, note on, (75-76) p. 85.

Elgin to Salisbury, N.B., Lower Carboniferous rocks exposed from, (70-71) p. 209.

Elgin Corner, N.B., section of Lower Carboniferous rocks, (76-77) p. 375.

- section south to mouth of Upper Salmon River, pre-Silurian rocks of, (77-78) pp. 4-5 D.
- notice of boring for Albertite at, (78-79) p. 25 D.

Elgin Mills, Mabou, N.S., Lower Carboniferous limestone series at, (82-84) p. 49 H.

Elgin Road, L'Islet, Que., thickness of Potsdam, synclinal ridge, (66-69) E. p. 124, F. p. 138.

- rocks exposed on, (66-69) E. p. 137, F. p. 153.

Eliguck or Uhl-ghak Lake, B.C., country in vicinity of, (76-77) p. 26.

Elizabethtown, Ont., reference to cobaltiferous pyrites at, (1863) p. 306.

- pyrites, deposit of, referred to, (1863) p. 513.
- deposit of iron-pyrites, two varieties, (1863) p. 747.

cobalt in pyrites, possibly of economic importance, (1863) p. 750.

quarries for building stone in Calciferous Formation, (1863) p. 816.

magnetic pyrites and associated minerals, description of deposit, (74-75) pp. 304-306.

description and analyses of pyrrhotite, (74-75) p. 306.

analysis of mineral resembling hisingerite, (74-75) p. 315.

Elizabethtown acid works, Ont., description of works, output, (74-75) p. 307.

Elizabethtown iron mines, Ont., statistics for 1870-71, (71-72) p. 147.

Elk River, B.C., coal seams of, referred to, (82-84) pp. 111 C.

Ellerhausen's first experiments in making steel, (66-69) E. p. 293, F. p. 324.

- discovery of process for making malleable iron, (66-69) E. pp. 298-303, F. pp. 330-336.

Ellerhausen's process—Cont.

- theory of, (66-69) E. p. 300, F. p. 333.
- suggestions, (69-69) E. p. 302, F. p. 334.
- description, advantages of method, (66-69) E. p. 303, F. p. 334.

ELLIOTT, REV. JARED, first experiments on smelting iron-sand, (66-69) E. p. 263, F. p. 291.

Elliott's mill, Nerepis River, N.B., rocks of stream to Long Lake, (77-78) p. 27 DD.

conglomerates overlain by slates, Primordial, (77-78) p. 33 DD.

Elliott's mine, Ross Tp., Ont., apatite, notes on, (82-84) p. 5 L.

note on molybdenite at, (82-84) p. 8 L.

note on mining of chrysotile, (82-84) p. 14 L.

Ellis Bay, Anticosti, Que., section of rocks exposed on, (1863) p. 298-300.

rocks of first division as found at, compared with those of Fox Bay, east end of island, (1863) p. 308.

Ellis Brook, on post-road, Bathurst to Shippegan, N.B., exposures of Middle Carboniferous, (79-80) p. 6 D.

ELLS, R. W., result of work in New Brunswick in 1872, contained in report, (72-73) pp. 180-230.

report on borings at Newcastle Bridge, N.B., (72-73) pp. 231-237.

summary of work during summer of 1873, (73-74) p. 8.

work in New Brunswick in 1874, with Bailey and Matthew, (74-75) p. 84.

second report on boring operations at Newcastle Bridge, N.B., (74-75) pp. 90-93.

surveys in Carleton Co., N.B., in 1874, shown on map, (74-75) p. 97.

report on iron ore deposits of Carleton Co., N.B., with map., (74-75) pp. 97-104.

analysis of coal from Tracy mine, Mira Bay, N.S., (74-75) p. 189.

report on boring operations in North-west Territory in 1875, (75-76) pp. 281-291.

work in collecting specimens for Philadelphia exhibition, in N.W.T., (75-76) p. 286.

journey from Carleton to Edmonton, N.W.T., (75-76) pp. 286-287.

report, with Bailey and Matthew, on pre-Carboniferous rocks of Queens and Sunbury Cos., N.B., (75-76) pp. 350-368.

work in New Brunswick for 1876, summary of, (76-77) p. 4.

reference to map compiled by, Charlotte Co., N.B., (76-77) p. 334.

report on the Lower Carboniferous Formation of Albert Co., N.B., (76-77) pp. 351-401.

summary of surveys in New Brunswick in 1877-78, letter of transmittal of, (77-78) D.

report on pre-Silurian rocks of Albert, Eastern Kings and St. John Cos., N.B., (77-78) pp. 1-13 D.

summary of work during 1879 in Northern New Brunswick, (78-79) p. 4.

list of fossils collected at Stony Mountain, Man., (78-79) pp. 49-50 C.

ELLS, R. W.—*Cont.*

- with Bailey and Matthew, report with résumé of geology of Southern New Brunswick, (78-79) pp. 1-26 D.
- summary of explorations of, in Northern New Brunswick, 1880, (79-80) p. 6.
- review of work of 1879-1880 in Northern New Brunswick, area examined, assistants, in letter of transmissal of (79-80) D.
- report on geology of Northern New Brunswick, parts of Restigouche, Gloucester and Northumberland Cos., (79-80) pp. 1-47 D.
- outline of surveys made in 1881 in North-eastern New Brunswick, (80-82) p. 6.
- discovery of Devonian fossil fishes at Campbellton, N.B., descriptions referred to, (80-82) p. 10.
- summary of explorations in Gaspé and New Brunswick in 1882, (80-82) pp. 19-20.
- fossils collected by, during 1882, (80-82) p. 24.
- report on geology of northern and eastern part of New Brunswick, (80-82) pp. 1-24 D.
- report on geology of the Gaspé Peninsula, Que., (80-82) pp. 1-32 DD.
- summary of explorations in 1883, Vermont Boundary, Bonaventure River, Cascapedia River and York River, Que., and on Prince Edward Island, (82-84) pp. 8-10.
- letter transmitting report on interior of Gaspé and part of Prince Edward Island, (82-84) p. 3 E.
- report on surveys made in 1883 in Gaspé and Prince Edward Island and report on geology of, (82-84) pp. 5-34 E.
- Elm, white, note on occurrence of, on Missinaibi River, Ont., (77-78) p. 25 C.
- note on northern limit of, in Canada, (79-80) p. 48 C.
- Elm Tree River, N.B., marble of, (79-80) p. 19 D.
- area of diabasic rocks near, (79-80) pp. 40-41 D.
- note on limestone in vicinity of, (79-80) p. 47 D.
- the argentiferous galena of, character, position of vein, (80-82) p. 22 D.
- assay of galena from, (80-82) p. 13 H.
- Elma Tp., Ont., outcrop of Corniferous Formation noted in, (1863) p. 371.
- clays of, (1863) p. 900.
- Elmore Gulch, B.C., gold workings on, (76-77) p. 140.
- Elmsley Tp., Ont., Potsdam sandstone surrounding gneiss, (1863) p. 93.
- lot 30, R. VI. analysis of hematite from small deposit, (73-74) p. 225.
- occurrence of apatite referred to, (1863) p. 460.
- apatite in northern part of, (63-66) p. 202.
- extensive exposures of apatite on lots 24-26, R. VIII. northern part, (63-66) p. 228.
- marl deposits in, (1863) p. 765.
- notes on Laurentian limestones of northern part of, (63-66) pp. 224-229.
- small outlier of Potsdam sandstones and apatite in northern part of, (63-66) p. 229.
- Elora Ont., section of Guelph Formation at, fossils found, (1863) p. 340.
- collection of rocks and fossils sent to school at, (74-75) p. 15.
- Ely Tp., Que., lower black slates in, bifurcation of anticline in, (1863) p. 240.
- copper workings in, (63-66) p. 35.
- copper localities in, (63-66) p. 304.
- assay of copper ore from, (79-80) p. 17 H.
- Elzevir Tp., Ont., analysis of talc from Laurentian of, (1863) p. 439.
- granitic gneiss of, described, (63-66) p. 92.
- magnetic iron-ore, localities, (63-66) p. 98.
- hornblende rocks diorites and diorite slates of, (63-66) p. 95.
- hematite, locality, description of, (63-66) p. 101.
- localities for iron-pyrites in, (63-66) p. 107.
- map of, on scale of 4 m.=1 in., (66-69) E. p. 143, F. p. 159.
- rocks of lower divisions Hastings Series in, E. p. 148, F. p. 164.
- reference to iron-ore in, (66-69) E. p. 152, F. p. 169.
- hematite deposit opened in 1867, (66-69) E. p. 161, F. p. 178.
- assays of gold from localities in, (66-69) E. p. 171, F. p. 190.
- galena locality, in small quartz veins, (66-69) E. p. 164, F. p. 182.
- steatites found to belong to Hastings Series, Huronian, (70-71) p. 311.
- white granites and syenites, (72-73) p. 140.
- soil of, on granite areas, (72-73) p. 140.
- Embarras River, Athabasca, character of soil, delta deposit, (75-76) p. 91.
- spruce of large size on, (75-76) p. 168.
- Emerald location, Root River, Ont., shafts sunk, copper-ore, (1863) p. 697.
- Emerald mine, Buckingham Tp., Que., description of workings and occurrence of apatite at, (82-84) pp. 11-12 J.
- Emeralds, "aqua marine," found in Jonquière Tp., Chicoutimi, Que., (82-84) p. 9 D.
- Emersons Creek, N.B. Bay of Fundy, geologically coloured section to Queens County line, (78-79) D.
- Emery Brook, Strait of Canso, N.S., section of Carboniferous rocks on, (79-80) p. 93 F.
- Emery mine, N.S., note on recent workings at, (72-73) p. 269.
- note on explorations and operations in connection with, (73-74) p. 179.
- railway accommodation, (73-74) p. 187.
- surface and underground workings, (73-74) pp. 187-188.
- production of, (73-74) p. 188.
- stump and roots of *Sigillaria Sydneensis*, illustration of, (74-75) p. 196.
- Emery Pond to Plaster Cove, Strait of Canso, N.S., section of strata, (79-80) pp. 79-83 F.
- Emery's wharf, Hawkesbury, N.S., section of Carboniferous at, (79-80) pp. 76-77 F.

- Emma Lake Nipigon River, Ont., position of, (66-69) E. p. 337, F. p. 372.
- Emmersons Creek, St. John, N.B., strata exposed to Quaco Lake, Carboniferous, (70-71) p. 210.
- EMMONS, PROF., on limestones of Adirondacks, (63-66) p. 182.
on origin and occurrence of auriferous quartz lodes, (70-71) p. 259.
- Empire mine, Madoc, Ont., assay of gold by Prof. J. T. Bell, (68-69) E. p. 169, F. p. 188.
- Enargite, ore at Harvey Hill mine, Que., possibly may contain, (1863) p. 711.
- Encrinal limestone division of Lower Helderberg Group, characters of in New York, (1863) p. 355.
- Encroachment of the sea on coast of Cape Breton Island, (74-75) p. 266.
- En-da-ko River, B.C., branch of Stellako River, size of, (76-77) p. 46.
- Endogenous rocks, note on, (63-66) p. 192.
- Engelmann's spruce, in British Columbia, note on distribution and character of, (79-80) p. 171 B.
reported occurrence on South Saskatchewan River, (79-80) p. 56 C.
- England, salt formation of, (63-66) p. 263.
- English Bay, Burrard Inlet, B. C., lignite locality, (74-75) p. 83.
- English Bay, Lake Nipigon, Ont., felspar-porphry, (66-69) E. p. 348, F. p. 385.
- English River, below Lac Seul, Ont., portages and falls on, (72-73) p. 11.
character of below Lac Seul, (72-73) p. 103.
glacial striæ on lower part of, (74-75) p. 44.
- English River, North Saskatchewan, N.W.T., size and character, spruce trees, (73-74) p. 34.
- English River Station, C.P.R., gneiss at and to past Butler Station, (80-82) pp. 11-12 C.
- English salt importations, (74-75) p. 269.
- English settlement, Johnston Tp., N.B., Lower Carboniferous in, (72-73) p. 194.
rocks exposed at, section of schists, on Carmichaels Brook, (75-76) p. 362.
- English system of salt manufacture, (74-75) p. 295.
- Englishtown Map-sheet, N.S., issued 1884, on scale of 1 m. = 1 in.
- Enniskillen, Ont., mineral water in borings similar to Bothwell, (63-66) p. 276.
- Enniskillen oil springs, Ont., probably on axis of anticline, (1863) p. 379.
- Enniskillen Petroleum Co., statistics for 1870, (71-72) p. 147.
- Enniskillen Station, N.B., section of Leda clay at, diagram of, description of, (77-78) pp. 25-28 EE.
- Enniskillen Tp., Ont., oil wells of, rise through Hamilton Formation, thickness of formation, from borings, (1863) pp. 386-387.
general note on oil wells of, (1863) p. 523.
description of oil wells, amount of oil obtained, (1863) p. 786.
shells, plants and insects of gravel beds, (1863) p. 901.
- Enniskillen wells, Ont., record, (63-66) p. 246.
- Enstatite, description and analysis of, quoted, (77-78) p. 14 G.
- Enterprise Gold and Silver Mining Co., B.C., assay of quartz for gold and silver, (78-79) p. 23 H.
- Entry Island, Magdalen Is., Que., height of hills, formation, sequence of strata, (79-80) p. 5 G.
- Eophyton*, discovery of, in Nova Scotia, note on age of, by Billings, (70-71) p. 269.
referred to, (76-77) p. 6.
- Eophyton* rocks of Sweden, Newfoundland, New Brunswick and Orleans Island, age of, (70-71) pp. 269-270.
- Eozoon*, organic character questioned, (63-66) p. 17.
general occurrence of in Laurentian, (63-66) p. 18.
horizon from which specimens are obtained, (63-66) p. 18.
note on geological horizon of, (74-75) p. 158.
horizon of, indicated by Vennor in 1875, (75-76) p. 4.
Hunt on origin of silicates in, (63-66) pp. 232-233.
in Laurentian rocks of Bavaria, (63-66) p. 17.
in serpentine limestone of Dalhousie and Darling Tps., Ont., (76-77) p. 253.
in limestones of Finland, (63-66) p. 184.
examples from High Rock mines, Ottawa Co., Que., resembling, (82-84) p. 9 J.
in synclines or basins associated with magesian limestones in Longboro, and Bedford Tps., Ont., (73-74) p. 109.
forms resembling in serpentine limestones, diorite area, Lanark, Ont., (74-75) p. 137.
specimen from Madoc, Ont., with calcareous skeleton, (63-66) p. 17.
not found in Ross Tp., Ont., (76-77) p. 266.
in Tudor, Ont., said by Logan to be Lower Laurentian, (76-77) p. 255.
- Eozoon Bavaricum*, reference to, (63-66) p. 184.
- Eozoon Canadense*, Dawson, reference to supposed fossil found by J. McMullen at Grand Calumet, Que., with wood-cuts of, (1863) pp. 48-49.
first mentioned in Survey reports, (63-66) p. 15.
minerals filling body chamber, (63-66) p. 183.
occurrence in Hastings Series (66-69) E. p. 159, F. p. 176, and (68-69) , . 6 Summ.
occurrence of in North Burges Tp., Ont., (70-71) p. 310.

- Epidosite, constitution of, exposures of on Gaspé coast noted, (1863) p. 497.
- Epidosite rocks of the Shickshock Mountains, Gaspé, Que., note on, (1863) p. 265.
- Epidote, general note on occurrence of in rocks, (1863) p. 497.
 occurrence in Laurentian, (63-66) p. 212.
 with hematite, note on occurrence of, (73-74) p. 221.
 in diorite mass, Anglesea, Ont., (72-73) p. 153.
 with magnetite at Blairton, Ont., (73-74) p. 200.
 in porphyry, Cape Rhumore, N.S., (76-77) p. 420.
 pale green prisms, Clifton and other localities in N.B., (70-71) pp. 237-240.
 in syenite, Dalhousie and Darling Tps., Ont., with *Eozoön*, (76-77) p. 253.
 in joints of diorite rocks, Departure Bay, B.C., (71-72) p. 90.
 near Gaspereaux Station, N.B., (76-77) p. 329.
 in syenite, Glengarry road, N.S., (76-77) p. 417.
 crystalline, of Gros Cap, Lake Superior, (76-77) p. 220.
 note on mode of occurrence in amygdaloidal trap, Lake Superior, (1863) p. 71.
 in Carboniferous conglomerate, McAdam Brook, N.S., (76-77) p. 435.
 in apatite bearing rocks of Templeton, Que., (77-78) p. 27 G.
 associated with crystalline limestones, southern part of Vancouver Island, B.C., (71-72) p. 91.
- Epidotic concretions in amygdaloid, Manitou-nuck Sound, Hudson Bay, (77-78) p. 15 C.
- Epidotic diorite in division B, Hastings Series, (66-69) E. p. 153, F. p. 169.
- Epidotic gneiss, occurrence of near Carleton Place, Ont., and on Mingan River, Que., (1863) p. 37.
 at Carleton Place, Ont., ornamental, (1863) p. 833.
- Epidotic hornblende-schist in group V, south-west of South Sherbrooke Tp., Ont., (74-75) p. 156.
- Epidotic rock, from Alberni road, Vancouver Island, note on, (72-73) p. 83.
 of iron-ore bed at Marmora, Ont., (66-69) E. p. 151, F. p. 168.
 concretionary, on Rivière des Plantes, Que., (1863) p. 255.
 of Quebec Group on eastern side of Shipton and St. Armand anticline, (1863) p. 246.
 general note on, (1863) p. 605.
 general characters of, (1863) p. 651.
- Epidotic syenite, Indian Brook, N.S., (76-77) p. 412.
- Episcopal Cathedral, Montreal, density of stone, (63-66) p. 283.
- Epsom salt, note on occurrences of in dolomites of Clinton Formation, (1863) p. 460.
 description of manufacture of, (1863) p. 756.
- Epsomites, *see also* Crystallites.
 in Onondaga Formation, note on, (1863) p. 346.
- Equisetum Similkamense*, Dawson, description of, from Tertiary of Similkameen River, B.C., (77-78) p. 187 B.
- Equivalency of coal seams in coal-fields of Cape Breton, N.S., table showing, (74-75) p. 250.
- Eramosa Tp., Wellington Co., Ont., boring at Eden Mills, (63-66) p. 251.
 Niagara Formation carried west on anticline to quarries for building stone, (1863) p. 330.
- Eridophyllum Simcoense*, Billings, wood-cut of, (1863) p. 366.
- Eridophyllum Verneuillanum*, Edwards and Haime, wood cut of, (1863) p. 366.
- Erie clay, general description of, with detailed occurrences of in Ontario, (1863) pp. 897-907.
- Erie Lake, *see* Lake Erie.
- Erin Tp., Ont., western limit of Niagara Formation in, (1863) p. 331.
- Erin, Ont., note on outcrop of base of Guelph Formation in vicinity of, affected by small anticlines, (1863) pp. 342-343.
- Erosion, in Bay of Fundy by tidal action, (77-78) pp. 18-22 EE.
 of Laurentian in pre-Palæozoic times, (82-84) p. 15 D.
- Erratic blocks on surface, general description of occurrences in Ontario and Quebec, (1863) pp. 893-896.
 on Vancouver Island, B.C., (72-73) p. 65.
- Erratic, Coldstream Valley, B.C., remarkable size and character of boulder, illustration showing, (77-78) facing p. 150 B.
 holding hematite ore found on Albany River, Ont., (71-72) p. 112.
- Erratics of Laurentian and Huronian rocks, western limit and height to which carried in Southern Alberta, (82-84) pp. 146-147 C.
 of Sydney district, N.S., (74-75) p. 265.
 not common on Vancouver Island, B.C., (71-72) p. 91.
- Erubescite, percentage of copper in, (1863) p. 692.
- Eruptive mass in Carboniferous on Taxis and South-west Miramichi rivers, N.B., (71-72) p. 242.
- Eruptive rocks of Canada, general description of, (1863) p. 643.
 of Upper Copper-bearing Series, (63-66) pp. 136-137.
 of Bay of Chaleurs, N.S., relation to Silurian and Devonian rocks, (80-82) p. 18 D.
 near Cranberry Lake, York Co., N.B., (66-69) E. p. 179, F. p. 198.
 in Devonian of Gaspé, altering beds., etc., (82-84) p. 25 E.
 below Lac des Quinze, Ont., (72-73) p. 117.
 and irruptive rocks of Bay of Chaleurs, N.S., vicinity of, (80-82) pp. 17-19 D.

- Eruptive rocks—*Cont.*
 in Brighton outlier of Lower Carboniferous, Carleton Co., N.B., (70-71) pp. 243-244.
- Escar, definition of, as applied to ridges in New Brunswick, (77-78) p. 12 EE.
- Escarpment, of gneiss on Little Perch River, Lake Mistassini, Que., (71-72) p. 118.
 of Silurian, Sand Point, Ottawa River, (76-77) p. 257.
 of Western Ontario plateau, general description, (1863) pp. 13-15.
- Escasonie, N.S., copper ore near, (76-77) p. 411.
 marble at, (76-77) pp. 427, 456.
 Laurentian rocks at, (76-77) p. 414.
- Escoumains, Saguenay Co., Que., fine white granitoid gneiss, (66-69) E. p. 306, F. p. 338.
- Escott Tp., Ont., note on occurrence of copper-pyrites in, (1863) p. 514, 693.
 note on magnetic iron-ore deposit, (1863) p. 675.
 cobalt ores in copper ores, reference to, (1863) p. 751.
 copper-pyrites in Laurentian, (63-66) p. 218.
- Escuminac Bay, Que., description of fossil Devonian fishes referred to, (80-82) p. 9.
- Eskimo camps (ancient) at Nottingham Island, Hudson Bay, (82-84) p. 30 DD.
- Eskimo dogs at Fort Churchill, illustration showing, (78-79) facing p. 16 C.
- Eskimo Inlet, Prince of Wales Sound, Hudson Bay, gneiss and crystalline limestone of, (82-84) p. 27 DD.
- Eskimo Island, Mingan Group, Que., marble, drab coloured, note on, (1863) p. 826.
- Esnagami Lake, Ont., Laurentian on, (80-82) p. 6 C.
- Esquesing Tp., Ont., exposure of Niagara resting on Clinton at Limehouse, thickness and fossils of, (1863) p. 327.
 sandstones of gray band for building stone, (1863) p. 815.
- Esquimaux, B.C., rocks of, altered limestones and epidotic rocks, (71-72) p. 52.
 table of mean temperature at, (77-78) p. 6 B.
- Esquimaux Harbour, B.C., limestone at entrance to, (71-72) pp. 91-92.
 speckled diorite, north of limestone, (71-72) p. 92.
 section across limestone, (71-72) p. 92.
 examination of supposed serpentine, (71-72) p. 100.
- Essa Tp., Ont., lacustrine sandy deposit of, (1863) p. 910.
- Essex Co., Ont., salt wells in, (63-66) p. 248.
 the Oriskany and Corniferous Formations in, (1863) p. 378.
- Essonite of apatite-bearing rocks of Ottawa Co., Que., (77-78) p. 26 G.
- Estheria*, shales holding, Nechacco River, B.C., (76-77) p. 71.
- Estimated quantity of coal per square mile, of seams in Southern Alberta, (80-82) p. 22 B.
- Estramadura, Spain, analysis of apatite from, (77-78) p. 11 H.
- Estuarine beds in Cretaceous of Utah, note giving Prof. Meek's observation on, (79-80) p. 132 B.
- Estuarine and fresh-water fauna of Niobrara age on Peace River, note on, (79-80) p. 132 B.
- Estuary of the Nelson River, navigation, harbour, etc., (79-80) p. 29 C.
- Etchemin River, Que., conglomerate bands below St. Anselm, (1863) p. 257.
 analysis of petrosilex from, (1863) p. 599.
 width of Lauzon and Sillery bands, (66-69) E. p. 134, F. p. 149.
- Etobicoke River, Ont., exposures of Hudson River Formation, referred to, (1863) p. 213.
- Etzi-kom Coulée, Alta., general description of, (82-84) p. 19 C.
 note on Indian cairn on, (82-84) p. 20 C.
 note on rocks of, (82-84) pp. 52-53 C.
 probable origin of, (82-84) p. 150 C.
- Eu-chen-i-ko River, B.C., description of country to Blackwater Bridge, (76-77) p. 20.
 character of valley, vegetation of, (75-77) pp. 21-22.
- Eulatazela Lake, B.C., note on pasture grasses of, (75-76) p. 131.
- Eulephas Jacksoni*, Briggs and Foster, wood-cuts of, (1863) pp. 966-967.
- Eumicrotis curta*, M. and H., note on specimen from Iltasyouco River, B.C., (76-77) p. 152.
- Eunema cerithioides*, Salter, wood-cuts of, (1863) p. 145.
- Eunema Erigone*, Billings, wood-cut of, (1863) p. 180.
- Eunema prisca*, Billings, wood-cut of, (1863) p. 119.
- Eunema strigillata*, Salter, wood-cuts of, (1863) p. 145.
- Euomphalus De Cewi*, Billings, wood-cuts of, (1863) p. 376.
- Eupagurus granosimanus*, Stimpson, note on specimens from Victoria, B.C., (78-79) p. 211 B.
- Eupagurus tenuimanus*, Stimpson, note on specimens from Port Simpson, B.C., (78-79) p. 211 B.
- Euphoide, general character of rocks of Mont Rosa, Switzerland, (1863) p. 650.
- Euphrasia Tp., Ont., distribution of Medina and Clinton Formations in, (1863) p. 317.
 notes on exposure of Niagara Formation in, (1863) p. 328.
 deposits of calcareous tufa suitable for lime making in, (1863) p. 804.
- Eupychroite, Ticonderoga, N.Y., (63-66) p. 203.
- Eureka mine, Five Islands, Colchester Co., N.S., description of deposit of barite, total output, (82-84) p. 23 L.

- Eureka mine, near Hope, B.C., report on silver ore from, by T. S. Hunt, (71-72) p. 66.
assay of silver-ore from, (75-76) p. 5, and (76-77) p. 478.
situation of, width of vein, (71-72) p. 57.
workings, character and value of ore, (76-77) p. 131.
- Eurite, one of the varieties of granites of Nerepis Hills, N.B., (70-71) p. 184.
- "Eurites," in Horton and Ross trough, of lime-stones, Ont., (76-77) p. 262.
- European apatites, table of analyses of, (77-78) p. 11 H.
- European and North American Ry., granites cut by, in Douglas Valley, N.B., (70-71) p. 183.
- Euschistus antiquus*, Scudder, description of, from Tertiary of Quesnel, B.C., (76-77) p. 459.
- Eurypteris limestone of New York, determined by Hall to be base of Lower Helderberg, (1863) p. 353.
- Eurypteris remipes*, De Kay, wood-cut of upper and lower side, specimen from Ontario, (1863) pp. 958-959.
- Eu-ti-a-kwe-ta-chick Lake, B.C., general description of, (76-77) p. 40.
rocks near, (76-77) p. 69.
- EVANS, E. W., quoted on oil in anticlines, (63-66) p. 256.
- EVANS, J., output of Lightning Creek mines, B.C., given by, (76-77) p. 111.
- Evans Island, Inhabitants Basin, N.S., Carboniferous rocks of, (79-80) pp. 69-70 F.
- Evaporation of brines in pans, at Clinton, Ont., (66-69) E. p. 225, F. p. 248.
in wooden vats in salt manufacture, (74-75) pp. 276-277.
of weak brines, (74-75) p. 277.
- Evaporative power of coal, method of calculation, (66-69) E. p. 367, F. p. 407.
expression for mechanical force, (66-69) E. p. 368, F. p. 408.
from Drummond colliery, Nova Scotia, (66-69) E. p. 386, F. p. 428.
from Sydney main seam, Nova Scotia, (72-73) p. 244.
- Evens Arm, coast of British Columbia, rocks of, (74-75) p. 76.
- Everetts iron-ore mine, Carleton Co., N.B., thickness and character of ore, (74-75) p. 99.
- Everton, Ont., lower part of Guelph Formation, brought up, by anticline, (1863) p. 342.
- Evidence of early inhabitants found in raised beaches, Q.C.Is., (78-79) pp. 94-95 B.
- Examination of coals and lignites, methods employed in laboratory, (82-84) pp. 2-5 M.
- Excavation of river channel along dolerite dyke, Nelson River, (77-78) p. 15 CC.
- Exhibition, Philadelphia, work at, (76-77) p. 1.
medals awarded at, (76-77) p. 2.
minerals exhibited at, (76-77) p. 2.
- Exotic rocks, definition of term used, (1863) p. 647.
notes on, (63-66) p. 192.
- Expenditure, on works of coal mines in Cape Breton, N.S., (72-73) p. 290.
for Philadelphia exhibition, (76-77) p. 1.
- Experiments at Portsmouth with Welsh and North Country coal, (66-69) E. pp. 430-431, F. p. 480.
- Explorations, in Alberta, resumé of, (82-84) p. 6 C.
around Calabogie Lake, Ont., (76-77) p. 251.
in Ontario, by A. Murray, note on, (76-77) p. 269.
of A. Murray referred to, (76-77) p. 275.
in Ontario, general remarks on, (76-77) p. 269.
of Ottawa and Pontiac Counties, Que., (76-77) p. 277.
for coal in Pictou, N.S., generally confined to Albion group, (66-69) E. p. 83, F. p. 93.
at Portage du Fort, Que., (76-77) p. 279.
of 1870, summary of, (70-71) pp. 2-11.
of Geological Survey, for 1877-78, (77-78) p. 4.
for coal made in New Brunswick, note on borings, (78-79) p. 19 D.
- Explosions in coal mines, Pictou coal-fields, N.S., (70-71) p. 3.
- Export of, iron-ore from Hastings Co., Ont., (63-66) p. 112.
salt from Great Britain to America, (74-75) p. 289.
- Extension of lodes in gold district, notes by H. Y. Hind, (70-71) p. 263.
- Extraction of gold from ores, general note on, (63-66) p. 81.
- Factory Brook, Inverness Co., N.S., outlier of Carboniferous and pre-Cambrian rocks of, (82-84) p. 23 H.
- Fader Point, Cape Dauphin, N.S., syenite or diorite, foliated, (75-76) p. 378.
- Fagans Lake, Bathurst Tp., Ont., crystalline limestone on north shore of, (73-74) p. 105.
- Faggot gradation, evaporation of weak brines, (74-75) p. 278.
- Fagus Ferruginea*, Ait., note on northern limit of, in Canada, (79-80) p. 52 C.
- Fairford Mission and Hudson's Bay Co.'s post, situation of, (74-75) p. 38.
- Fairford River, Man., described by R. Bell, (74-75) p. 38.
- Fairville, N.B., section of stratified drift deposits, organic remains in, (77-78) p. 23 EE.
- Fairy Holes, caves on coast of Cape Dauphin, N.S., (74-75) p. 259.
- Fairy Lake, near Garden River, Ont., (76-77) pp. 211-212.
- Falcon Station, C.P.R., Ont., character of gneiss, (80-82) p. 12 C.

- Falcon Lake, Lake of the Woods, Ont., assay of quartzite and molybdenite from, (78-79) p. 21 H.
- Fall Brook, Gaspereau Lake, N.B., varieties of granites at, (70-71) p. 183.
- Fall Creek, B.C., gold workings on, (76-77) p. 140.
- Fall in Belly River, Alta., estimated, (82-84) p. 26 C.
- Fall in Bow River, from Gap to Calgary, (82-84) p. 31 C.
to Blackfoot Crossing, (82-84) p. 32 C.
- Fall in Old Man River, estimated, (82-84) p. 25 C.
- Fall in Peace River, between various points, (75-76) p. 85.
- Fall River, Ont., crystalline limestone band on, (73-74) p. 105.
- Falls Brook, Miramichi River, N.B., slates at mouth of, (66-69) E. p. 192, F. p. 212.
- Falls, at St. John, N.B., Laurentian rocks in vicinity of, (70-71) p. 37.
of Macintosh Brook, N.S., (76-77) p. 432.
of Dog Brook, N.S., (76-77) p. 439.
- False Bay, Lyell I., Q.C.Is., dark argillites of, (78-79) p. 58 B.
- False Bay Lake, Richmond Co., N.S., Carboniferous rocks of, (79-80) p. 67 F.
- False bedding in sandstone of McNeil Brook, N.S., (76-77) p. 439.
- False Narrows, near Nanaimo, B.C., rocks at, (76-77) p. 175.
- Famine River, Que., altered Devonian rocks on, fossils found, (1863) p. 428.
note on gold-bearing drift deposits of, (1863) p. 739.
- Fannen Brook, Queens Co., N.B., pre-Carboniferous rocks on, the dark argillite series, (70-71) p. 194.
- Fannen Lake, N.B., gray granites of, (70-71) p. 54.
intrusive granite area of, (70-71) p. 189.
contact of intrusive granite with overlying schists at, (70-71) p. 190.
- Fanny Bay, Baynes Sound, B.C., harbour accommodation of, safety, (71-72) p. 81.
rocks near Comox, B.C., (76-77) p. 163.
rocks near, Lower shales of coal measures, (76-77) p. 168.
- "Fans" in the Fraser River valley, B.C., note on use of term, (77-78) p. 10 B.
- Fans and scree, on Nicola Lake, B.C., (77-78) p. 31 B.
- FARIBAULT, E. R., work by, as assistant to H. Fletcher, 1883, p. 15.
appointment on staff, (82-84) p. 23.
field work of 1882 in Nova Scotia, assistant to H. Fletcher, (82-84) p. 3 H.
- Faribault Branch of Cheticamp River, N.S., hornblende-schists, etc., (82-84) p. 22 H.
- Farm Brook, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 23 H.
shale and sandstone, etc., Lower Carboniferous, (82-84) p. 38 H.
- Farm Island, Gatineau River, Que., area cultivated, products of, (70-71) p. 298.
- Farm products of southern part of Cape Breton Island, N.S., note on, (79-80) p. 116 F.
- Farming at Lillooet, B.C., (77-78) p. 11 B.
- Farnens Hill vein, Londonderry, N.S., ore raised from, supply of ore, (72-73) p. 26.
- Farnham Tp., Que., limestone in lower shales of Quebec Group, fossils in, (1863) p. 239.
- Farren Lake band of limestone, part of group V., Lanark, Ont., (74-75) p. 151.
distribution of, (72-73) p. 160.
- Fasciolaria nodulosa*, Whiteaves, description and figure, (73-74) p. 268.
- Fault, at Baynes Sound coal mines, in strata in ravine, (72-73) p. 43.
on Black River, Cumberland Co., N.S., north side of, (73-74) p. 168.
at Cape Dauphin, N.S., in Lower Carboniferous rocks of, (74-75) p. 262.
Champlain, in Canada, course of, (1863) p. 234.
at Cowgitz, Q.C.Is., in coal measures, (72-73) p. 59.
at Gaspé, on Marsouin River, noted, (1863) p. 267.
in Gaspé, between Hudson River rocks and Lévis beds, former line of division, (80-82) p. 18 DD.
on Little Forks River, Cumberland Co., N.S., at east end of Coal Measures near, (73-74) p. 167.
on Little River, Richmond Co., N.S., in Coal Measures, (79-80) p. 72 F.
in Montreal and Pictou Coal Co's workings, (66-69) E. p. 106, F. p. 119.
at New Campbelltown, N.S., (70-71) pp. 4-5.
at Pointe aux Mines, Lake Superior, reference to, (1863) p. 82.
on Porcupine Creek, 49th Parallel, in Lignite Tertiary, (79-80) pp. 29-30 A.
on St. John River, Queens Co., N.B., in pre-Carboniferous, (75-76) p. 358.
at Skidegate Inlet, Q.C.Is., supposed to cross mouth of, (78-79) p. 70 B.
of Westport Mountains, Rideau Lakes, Ont., running east of, (72-73) p. 163.
- Fault (?) between groups III and IV, Lanark Co., Ont., (74-75) p. 140.
- Faults, not extending to oldest gneiss system, (76-77) p. 276.
at Cape Dauphin, N.S., note on, (73-74) p. 174.
of Cumshewa Inlet, Q.C.Is., in Cretaceous area, (78-79) p. 82 B.
at Grande Coupe, Gaspé, Que., in Hudson River rocks, (1863) p. 269.
in Newfoundland, rocks on west coast, general description of, (1863) pp. 876-877.
in Southern New Brunswick, in rocks of, (70-71) p. 178-180.
in Ontario, in Trenton rocks of eastern part, note on, (1863) p. 174.

Faults—*Cont.*

- Ottawa River, crossing at Little Chaudière Falls, (1863) p. 94.
 in Pictou coal-field, N.S., general classification of, (66-69) E. p. 85, F. p. 95.
 near Point St. Peter, Gaspé, Que., in Devonian rocks, (80-82) p. 6 DD.
 in St. John and Charlotte Cos., N.B., (70-71) p. 179.
 of Skidegate Inlet, Q.C. Is., in Cretaceous area of, note on, (78-79) p. 71 B.
 in Stanbridge conglomerate series, (1863) p. 853.
 at Sydney Harbour, N.S., (74-75) p. 184.
 of Sydney coal-fields, N.S., (75-76) p. 371.
 from White Cape to Beaufils Bay, Que., in Bonaventure Formation, (1863) pp. 440-441.
- Fauna of New Brunswick, note on by R. Chalmers, collections previously made (82-84) pp. 45-46 GG.
- Favistella stellata*, Hall, wood-cuts and sections of, (1863) p. 206.
- Favosites*, Sp. found in Goderich boring, Ont., (76-77) p. 228.
 notes on specimens from Fossil Point, Peace River, (75-76) pp. 98-99.
- Favosites cervicornis*, De Blainville, wood-cut of, (1863) p. 363.
- Favosites basaltica*, Goldfuss, wood-cut of, (1863) p. 362.
- Favosites Gothlandica*, Goldfuss, wood-cut of, (1863) p. 305.
- Favosite hemispherica*, Yandel and Shumard, wood-cut of, (1863) p. 362.
- Favosites polymorpha*, Goldfuss, wood-cuts of, (1863) p. 363.
- Favosites turbinata*, Billings, wood-cut of, (1863) p. 362.
- Fawcetts Brook, N.B., note on deposit of gypsum at, (78-79) p. 26 D.
- Fawnies Mountain, or Toot-i-ai, B.C., general description, terraces, illustration, (76-77) facing p. 40.
 rocks of, (76-77) p. 71.
- Feist Lake, east of Rat Portage, Ont., narrow band of argillaceous slate at, (80-82) p. 13 C.
- Felsites, north of Belfry Lake, N.S., red, (77-78) p. 14 F.
 of Blue Mountains, Cape Breton Co., N.S., (77-78) p. 5 F.
 on Bostwicks Brook and Kingston Creek, N.B., (77-78) p. 4 E.
 of Cape Breton Island, N.S., (76-77) pp. 405-428.
 northern part, (82-84) pp. 6-34 H.
 coast of, (77-78) pp. 6-10 F.
 at Cranberry Lake and Harvey Station, N.B., section of, (72-73) p. 184.
 on Echo River, Ont., (76-77) p. 210.
 of Garden River, Ont., vicinity of, (76-77) p. 212.

Felsites—*Cont.*

- of Greenwich Tp., Kings Co., N.B., supposed Huronian, (70-71) p. 68.
 of Gros Cap, Lake Superior, (76-77) p. 220.
 of Guysborough Co., N.S., (79-80) pp. 9-10 F.
 from Iltasyouco Fall, B.C., microscopical description of, (76-77) p. 66.
 of Little Lake George, Ont., (76-77) p. 212,
 of Loran, Cape Breton, N.S., (76-77) p. 425.
 of McEachern Brook, Mira Lake, N.S., buff coloured, (77-78) p. 14 F.
 of Mabou River, Inverness, N.S., character of, (79-80) p. 17 F.
 at Madoc, Ont., (63-66) p. 93.
 of the Margaree Sugarloaf, Cape Breton Island, N.S., (82-84) pp. 24-25 H.
 near Morrison Harbour, West Bay, N.S., section of, (79-80) pp. 6-8 F.
 in New Brunswick, Harvey Station, probable origin of, corrugated beds, (72-73) p. 185.
 of Nipisiquit River, N.B., pre-Cambrian, (79-80) p. 36 D.
 of North Mountain, Inverness Co., N.S., (79-80) pp. 14-17 F.
 of Pictou coal-field, N.S., pre-Carboniferous, (66-69) E. p. 57, F. p. 63.
 of Richmond, Inverness and Guysborough Cos., N.S., pre-Cambrian, description of exposures, (79-80) pp. 4-17s F.
 at Salmon River Fall, B.C., in Porphyrite Series, (76-77) p. 59.
 at Stewards Neck, Maine, probably of Mascarene Series, (70-71) p. 158.
 on Upsalquitch River, N.B., (79-80) p. 37 D.
 of vicinity of Victoria mine, Ont., (76-77) p. 213.
 from Watson Brook, N.S., analysis and experiments on as material for fire-brick, (75-76) pp. 423-425.
 of York and Carleton Cos., N.B., (82-84) p. 26 G.
- Felsites and porphyries for ornamental purposes in New Brunswick, note on, (70-71) p. 236.
- Felsite areas in southern part of Queens and Sunbury Cos., N.B., (75-76) pp. 350-352.
- Felsite-breccia, Cape Rhumore, N.S., (76-77) p. 419.
 of Gregwa Brook, N.S., (76-77) p. 412.
 of Scatari Is., and concretionary felsite of, N.S., (77-78) pp. 6-7 F.
 of Scatari Is., N.S., as an ornamental stone, (77-78) p. 30 F.
 in Southern New Brunswick, age of, large fragments of, at Lister's mill, (72-73) pp. 185-186.
 of South Stream, Barnesville, N.B., exposures on, (77-78) p. 7 DD.
- Felsite dykes in Silurian rocks of Upsalquitch River, N.B., (79-80) pp. 17, 37 D.
- Felsite and Petrosilex Group of pre-Silurian, St. John and Kings Cos., N.B., (77-78) pp. 3-17 DD.

- Felsite porphyry cutting syenite in Grenville district, Que., (1863) p. 39.
- Felsitic porphyry, east side Michipicoten Island, Lake Superior, (63-66) p. 142.
- Felspathic actinolite-schist from Bolton Tp., Que., lot 28, R. V., microscopic structure of, (80-82) p. 18 A.
- from Pinnacle Mt. East St. Armand, Que., microscopic structure of, (80-82) pp. 14-16 A.
- from Stukely Tp., Que., lot 6, R. VII, microscopic structure of, (80-82) pp. 17-18 A.
- from Sutton Tp., Que., lot 1, R. II, microscopic structure of, (80-82) p. 16 A.
- Felspathic gneiss, pre-Cambrian, of Nipisiguit River and Northern New Brunswick, (79-80) pp. 30-31 D.
- Felspathic hornblende-schist from Bear Mountain, Potton Tp., Que., microscopic structure of, (80-82) p. 16 A.
- from Bolton Tp., Que., lot 3, R. XI, microscopic structure of, (80-82) p. 18 A.
- Felspathic rocks, *see* Petrosilex, mean composition of, (1863) p. 590.
- Felspathic sandstone, from Eastern Tps., Que., microscopic structure of, (80-82) pp. 22-23 A.
- from Maude Island, Skidegate, Q.C.Is., at base of division C., Cretaceous, (78-79) p. 67 B.
- of Nechacco Series, B.C., (76-77) p. 73.
- on Sherwoods Mill-stream, Hammond Tp., N.B., (77-78) p. 13 DD.
- Felspar, of crystalline rocks, two classes of, note on, (1863) p. 646.
- descriptions of varieties, with analyses of, (1863) pp. 474-480.
- decomposition of, general note on, giving general chemical changes, (1863) p. 570.
- for porcelain, general note on use of, in manufacture of, (1863) p. 801.
- from Montarville, Que., analysis of, referred to, *printer's error* in, noted, (1863) pp. 479, 666.
- from Montreal Island, Que., notes on analyses of, from trachytes of (1863) p. 662.
- labradorite, analyses of, from various localities, (1863) p. 478.
- lime, analyses of various samples of, (1863) p. 479.
- potash, analyses of orthoclase, from Grenville and Argenteuil Cos., Que., (1863) p. 474.
- soda, general description of varieties, with analyses, (1863) pp. 477-480.
- with hematite and specular ore, note on occurrence of, (73-74) p. 221.
- at Fournier mine, Ont., associated with magnetite, (73-74) p. 200.
- analysis of, (73-74) p. 198.
- of some of the diorites of Ontario, (74-75) pp. 309-310.
- from Buckingham, Que., analysis of, (76-77) p. 511.
- from vicinity of Bushby Inlet, Georgian Bay, analysis of, (76-77) p. 197.
- Felspar—*Cont.*
- at Fairy Lake, Ont., (76-77) p. 211.
- of Moose Deer Point, Ont., vicinity of, (76-77) p. 198.
- at Parry Sound, Ont., (76-77) pp. 199-200.
- at Partridge Bay, Ont., analysis of, from, (76-77) p. 197.
- at Shibaonaning, Ont., (76-77) p. 208.
- crystalline, from vicinity of Leach Island, Lake Superior, (76-77) p. 218.
- from Pointe aux Mines, Lake Superior, (76-77) p. 216.
- from French River, Ont., (76-77) p. 195.
- from Lorimer Lake, east end of, (76-77) p. 204.
- on Pringle Brook, West Bay, N.S., Sporting Mountain, crystals in rocks of, (79-80) p. 8 F.
- triclinic, *see* Anorthosites.
- Felton River, Lake St. Francis, Que., intrusive granite on, (1863) p. 430.
- Fenelon Falls, Ont., Trenton fossils found at, list of, (1863) p. 191.
- Fenwick Tp., Lake Superior, copper-ores, (63-66) p. 131.
- Fergus, Ont., exposures of Guelph Formation at, fossils found, (1863) pp. 341-342.
- Ferguson Brook, Richmond and Inverness Cos., N.S., sandstone at falls, (79-80) p. 71 F.
- Ferguson's quarry, Ross Tp., Ont., capacity of limekiln, stone quarried, quality of, (82-84) p. 15 L.
- Fern Brook, Cheticamp River, N.S., syenite and granite rocks of, (82-84) p. 22 H.
- Fern roots used as food by Indians at Comox, B.C., (71-72) p. 95.
- Ferns of southern part of Cape Breton Island and Guysborough Co., N.S., list of, (79-80) p. 115 F.
- Ferrie Tp., Ont., Parry Sound crystalline limestone band extending to, (76-77) p. 203.
- limestone in, referred to, (76-77) p. 206.
- Ferris Cove, N.B., list of fossil plants from, (72-73) p. 207.
- Ferro-calcite, occurrence of, in Cretaceous shales, (79-80) p. 41 A.
- Ferruginous chlorite, Portage Lake, Mich., analysis of, (63-66) p. 152.
- Fertilizer, value of peat for, in New Brunswick, (77-78) p. 34 EE.
- Fetid calcite of Grenville, Que., description of, (1863) p. 455.
- Fidelity mines, Templeton, Que., character of steatite found at, (77-78) p. 33 G.
- Fife Point, Q.C.Is., observations for latitude near lagoon, (78-79) p. 234 B.
- note on longitude of, (78-79) p. 238 B.
- Fifteen Point, P.E.I., note on rocks exposed at, (82-84) p. 14.
- Figure showing contact of syenite and gneiss at Big Brook, Inverness, N.S., (79-80) p. 16 F.

- Figures of phosphatic nodules from Macintosh Brook, N.S., (76-77) p. 433.
- Filices*, fossil species from Hornby I., B.C., (72-73) p. 70.
- Filmaro Settlement, N.B., exposures of petrosilicious beds, pre-Silurian, relation to mica-ceous series, (77-78) pp. 15-16 DD.
- Finch Tp., Ont., exposures of Trenton in, (1863) p. 173.
peat deposits in, noted, (1863) p. 780.
- Findlay Creek, B.C., gold workings on, in Kootenay District, (76-77) p. 141.
- Fingerboard in Norton, N.B., Lower Carboniferous limestones with lead and copper, (70-71) p. 208.
- Finland, iron-ore in Laurentian of, (63-66) p. 195.
- Finlay Forks, Peace River, B.C., illustration showing view at, (75-76) p. 40.
- Finlay Point, Mabou coal-fields, N.S., section of Coal Measures and Carboniferous limestone at, (82-84) pp. 68-69 H.
list of fossils from black shales north of, (82-84) p. 71 H.
- Finlay Rapids, Peace River, description of, (75-76) p. 41.
black slates of, (75-76) p. 80.
- Finlay River, B.C., black slate at mouth of, (75-76) p. 80.
mouth of, botanical notes in vicinity of, (75-76) p. 144.
gold on, (76-77) p. 141.
- Finlayson Channel, B.C., rocks of, (74-75) p. 76.
- Fire, forest, effect of in British Columbia, (76-77) p. 19.
origin of, tradition among Haida Indians, (78-79) p. 150 B.
- Fire-brick, materials for, the Dinas fire-brick, how made, (1863) p. 800.
experiments with altered felsite from Watson Brook, N.S., (75-76) pp. 424-425.
test of infusorial earth from Pollet River Lake, N.B., (79-80) pp. 3-6 H.
- Fire-clay, origin of, chemical history of, (1863) p. 572.
of Cape Breton Island, N.S., note on, (74-75) p. 264.
of Coxheath and East Bay, N.S., (76-77) p. 416.
of vicinity of Dundas, Ont., note on, (1863) p. 802.
of Newcastle District, N.B., (72-73) p. 228.
of Sporting Mountain, N.S., referred to, (79-80) p. 125 F.
found in the Tertiary beds near 49th Parallel, N.W.T., (79-80) p. 49 A.
- Fire-pan Range of, Northern British Columbia, height of, (79-80) p. 25 B.
- Fire-steel Rapid, Mattagami River, Ont., assay of pyrites from, (78-79) p. 21 H.
- "Fire Stone" or lignite on Ko-has-gan-ko River, B.C., (76-77) p. 32.
- First-birch Brook, Nelson River, notes on fossils from, (78-79) p. 47 C.
- First-eel River Lake, Canterbury Parish, N.B., conglomerates of, (82-84) p. 15 G.
- First-gold Brook, Middle River, N.S., section of schists, etc., in, (82-84) p. 28 H.
- First prairie steppe, description by Hector, quoted, (73-74) p. 20.
Palaeozoic rocks of, note on, (73-74) p. 21.
absence of coal in rocks of, (74-75) p. 3.
evidence of lake basin, elevation of ridges, (74-75) p. 49.
- First and second prairie steppes, composition of drift, (74-75) p. 41.
- Fish, of Lake Athabasca, varieties found in, (75-76) p. 165.
of Bras d'Or Lakes, N.S., (76-77) p. 403.
of Greens Creek, Ottawa River, (fossil) in clays of, (1863) p. 917.
of Hudson Bay, note on varieties of, reported in, (79-80) p. 17 C.
of Lake Winnipeg, note on, number of species identified in, (78-79) p. 6 C.
of Molsens Lake, Keewatin, list of varieties (79-80) p. 7 C.
in New Brunswick, partial list by R. Chalmers, from streams and lakes, (82-84) p. 46 GG.
of Saskatchewan River, note on, (73-74) p. 62.
- Fish and mammals of Hudson Bay, and East Main Coast (77-78) pp. 27-29 C.
- Fish and game at High Falls, Madawaska River, Ont., (76-77) p. 251.
- Fish club and hooks as used by Haida Indians, figs. 8, 9 and 10, plate VII., (78-79) B.
- Fish Creek, N.B., kame in valley of, (82-84) p. 26 GG.
- Fish Head, Grand Manan Island, pre-Cambrian rocks of, (70-71) p. 102.
- Fish-hooks used by Haida Indians, figs. 9 and 10, (78-79) p. 144 B.
- Fisher Channel, B.C., gray syenite rocks of, (74-75) p. 76.
- Fisheries, of Haida Indians of Q.C.Is., note on, (78-79) pp. 109-112 B.
of Manitoulin Islands, Ont., (63-66) p. 169.
at Quatre Fourches, near Peace River, N.W.T., (75-76) p. 165.
of Queen Charlotte Is., note on varieties of fish caught, (78-79) p. 44 B.
- Fishers grant, Pictou Harbour, N.S., shipping wharf of Acadia Coal Co., (66-69) E. p. 99, F. p. 112.
- Fisher's mills, Humber River, Ont., Hudson River limestone at, (1863) p. 213.
- Fishing Cove River, N.S., felsite rocks of, (82-84) p. 21 H.
- Fisaset Brook, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 23 H.
- Fissures influencing flow in oil wells, (63-66) p. 255.

- Fissure veins in gold-bearing rocks of Marmora, Ont., (71-72) p. 132.
- Fistulipora Canadensis*, Billings, wood-cut of, (1863) p. 364.
- Fitzhugh Sound, B.C., iron-ore reported in, (73-74) p. 101.
- Fitzpatrick Brook, N.S., 1-foot seam of coal, probably Tracy seam, (74-75) p. 190.
- Fitzroy Harbour, Ont., limestones of Laurentian used as marble in Parliament Buildings, Ottawa, (1863) p. 822.
assay of galena from island, (80-82) p. 13 H.
- Fitzroy or Horse Island, (Fitzwilliam) Manitoulin Is., rocks of, belong to Niagara, (1863) p. 333.
- Fitzroy Tp., Ont., the Chazy Formation in, (1863) p. 128.
the Trenton Formation exposed in, (1863) p. 175.
mineral springs in, reference to analysis, (1863) p. 537.
analysis of mineral water from Gillan's spring, (1863) p. 549.
galena deposits of, (1863) p. 689.
iron ores of, (76-77) p. 247.
analysis of magnetic iron-ore from, (79-80) pp. 15-16 H.
assay of galena from lot 14, R. VIII., (79-80) p. 19 H.
- Fitzwilliam Island, Georgian Bay, red beds of Clinton exposed on, (1863) p. 320.
- Five Islands, Colchester Co., N.S., description of Eureka barite mine at, (82-84) p. 23 L.
- Five-mile Inlet, East Main Coast, Hudson Bay, description of, height of water in channel, (77-78) p. 33 C.
- Five-mile woods, Swan River Valley, Man., (74-75) p. 33.
- Five Portages, Clearwater River, N.W.T., rocks exposed at, (75-76) p. 94.
character of country at, (75-76) p. 173.
- Fjords of Labrador Coast, note on, (82-84) p. 11 DD.
- Flags Cove, Grand Manan I., rocks exposed on peninsula of, (70-71) p. 105.
traps and schists near Drake's wharf, (70-71) p. 105.
Triassic traps near, (70-71) p. 220.
- Flagstaff Hill, Carleton Co., N.B., phosphoric acid in iron-ore of, (74-75) p. 99.
red and green slates of, near slates containing ore, (74-75) p. 99.
- Flags, note on quarries for, in Cape Breton, N.S., (74-75) p. 263.
- Flagstones, notes on rocks of Ontario and Quebec suitable for, localities noted, (1863) pp. 827-830.
of Pointe aux Mines, Ont., vicinity of, arenaceous, (76-77) p. 215.
of Mica Bay, Lake Superior, argillaceous, (76-77) p. 216.
of Cockburn Islands, Ont., economic value of beds, (66-69) E. p. 116, F. p. 131.
- Flagstones—*Cont.*
on East Main Coast, Hudson Bay, occurrence of, (77-78) p. 24 C.
at Hemmingford, Que., in Potsdam sandstone, (1863) p. 88.
of Lanark, Ont., in banded limestone, (74-75) p. 143.
of the Manitoulin Islands, Ont., (63-66) p. 178.
of Nanaimo Harbour, B.C., and building stones, (71-72) p. 84.
in Southern New Brunswick, occurrence of suitable beds for, (70-71) p. 235.
Patapedia River, Que., of even thickness on upper part of, (1863) p. 417.
at Wyldes Cove, Guysborough, N.S., rocks suitable for, (79-80) p. 43 F.
- Flaherty's lot, North Burgess Tp., Ont., openings for apatite on, (73-74) p. 110.
- Flamborough, Ont., percentage of iron in hematite from, (76-77) p. 474.
- Flamborough East Tp., Ont., record of well in, (63-66) p. 251.
- Flamborough Head, Nelson River, thickness of clay deposits at, marine shells, (77-78) p. 11 CC.
- Flamborough West Tp., Ont., section of Niagara Formation in, near Dundas, Ont., fossils found, (1863) pp. 325-326.
Niagara Formation on north side of Dundas anticline, (1863) p. 329.
section of Gray band and Clinton strata on Sydenham road, (1863) pp. 313-314.
- Flannigans Hill, Carleton Co., N.B., note on slates, iron-ore and building stone of, (74-75) p. 99.
slates and ores traced across the St. John River from, (74-75) p. 100.
- Flat Head, near Seacool Bay, N.S., thickness of Carboniferous at, (79-80) p. 92 F.
- Flathead River, at International Boundary, B.C., character of rocks on, limestone outlier, (82-84) p. 27 B.
- Flathead Valley, B.C., list of Carboniferous fossils from, (82-84) p. 41 B.
- Flat Rock Portage, Lake Nipigon, discovery of outlet to Lake Hannah, (71-72) p. 102.
- FLEMING, SANFORD, information from, on surface geology of Western Ontario, (1863) p. 894.
reference to papers by, on superficial geology of Ontario, (1863) x.
fossil footprints of reptile presented to Survey by, (80-82) p. 24.
- Fleming seam, Acadia mines, Pictou, N.S., (66-69) E. p. 69, F. p. 77.
- Flemings Lake, on Kwa-kash-kagama River, branch of Albany River, (70-71) p. 342.
- FLETCHER, MR. H. R., mining on Michipicoten Island, (1863) p. 704 and (63-66) p. 143.
- FLETCHER, HUGH, field-work of 1873 in Cape Breton, N.S., assistant to Chas. Robb, (73-74) p. 171.

FLETCHER, HUGH—*Cont.*

- field-work of 1874, (74-75) p. 167.
summary of operations by, during summer of 1875, (75-76) p. 369.
report on surveys in Cape Breton, N.S., by, (75-76) pp. 369-418.
work of 1876 in Cape Breton, N.S., (76-77) p. 4.
report by, on part of Cape Breton Island, parts of Victoria, Cape Breton and Richmond Cos., N.S., (76-77) pp. 402-456.
report on surveys in Cape Breton by, with map of part of Cape Breton Co., N.S., Louisburg sheet, (77-78) pp. 1-32 F.
summary of work in 1879 in Cape Breton, N.S., by, (78-79) p. 4.
progress of surveys for 1880 in Cape Breton, N.S., by, (79-80) p. 7.
summary of surveys made during 1878-1879 by, methods used, construction of map, acknowledgment of assistance, (79-80) pp. 1-2 F.
report on geology of part of Richmond, Inverness, Guysborough and Antigonish Cos., N.S., by, (79-80) pp. 1-125 F.
summary of operations in Cape Breton, N.S., for 1881 by, (80-82) pp. 6-9.
progress of surveys by, maps prepared by, (82-84) pp. 14-15.
letter from, transmitting report on Northern Cape Breton, N.S., with acknowledgment for assistance in field-work, (82-84) p. 3 H.
report on geology of northern part of Cape Breton Island, N.S. by, with 24 Map-sheets, scale, 1 m.=1 in., (82-84) pp. 5-98 H.
- FLETCHER, WILLIAM, referred to, (76-77) p. 402.
work done by, as assistant to H. Fletcher, (79-80) p. 2 F.
date of accidental drowning of, in North-east Margaree River, N.S., (80-82) p. 8.
- Fletcher's mine, Michipicoten Island, Lake Superior, description of workings and ore, (1863) p. 704.
- Fleurant Point, Bay of Chaleurs, Que., unconformity between Devonian and Lower Carboniferous at, (79-80) p. 10 D.
Devonian beds containing fossil fishes at, (79-80) p. 13 D.
high cliff of Lower Carboniferous at, (80-82) p. 7 D.
- Flexures in sandstone, (Cretaceous) of Pine River, N.W.T., with diagrammatic section (79-80), facing p. 114 B.
- Flexure and fault in Tertiary beds, Red Point, Kamloops Lake, B.C., (77-78) p. 116 B.
- Flint Island, Cow Bay, N.S., formation of, (74-75) p. 183.
- Flint Island, Nastapoka Sound, Hudson Bay, dip of rocks at, iron-ore, (77-78) p. 16 C.
note on occurrence of spathic iron-ore at, (77-78) p. 21 C.
analysis of spathic iron-ore from, (77-78) p. 47 G.
- Flinton, Kaladar Tp., Ont., rocks of division B, Hastings Series at, (66-69) E. p. 152, F. p. 169.

Flinton, Kaladar Tp., Ont.—*Cont.*

- basin of schists, etc., of Hastings Series, extending through, (70-71) p. 311.
series of schist conglomerates at, (72-73) p. 151.
- Flinton road, Ont., white granites on, (72-73) p. 139.
- Floda Island, West Bay, N.S., blocks of gypsum on, (79-80) p. 69 F.
- Flood, tradition of, among Haida Indians, (78-79) p. 149 B.
- Floods of Red River, Manitoba, height of, (74-75) pp. 50-55.
- Flora, of British Columbia, divided into four groups, Coast, Interior, Canadian and Arctic, (79-80) p. 168 B.
of Central New Brunswick, notes on, by R. Chalmers, (82-84) pp. 44-45 GG.
of Fraser River valley, B.C., near Chilcotin River, (75-76) p. 235.
of Tatlayoyo Lake valley, B.C., (75-76) p. 239.
- Florenceville, N.B., green crystalline rocks cutting slates at, (74-75) p. 100.
section of terraces in valley of St. John River at, (82-84) p. 30 GG.
- Flos Tp., Ont., lacustrine sandy deposit in, (1863) p. 910.
- Flower Pot Island, Manitoulin Is., Ont., Niagara rocks, origin of name of, (1863) p. 333.
- Flower Lake, Ont., junction with English River, (72-73) p. 12.
- Flowering dog-wood, note on range of, in Canada, (79-80) p. 55 C.
- Flower's pit, Acton, Que., extent of workings at, (1863) p. 715.
- "Fluckan" felsite tuff, Pewabic mine, Mich., (63-66) p. 156.
- Flume Ridge, Southern New Brunswick, hills of slate belt, (70-71) p. 16.
rocks of dark argillite series at, (70-71) p. 195.
- Fluor-apatites, tables of analyses of Canadian and European, (77-78) pp. 10-11 H.
of Ottawa Co., Que., note on, (77-78) p. 15 G.
- Fluor Island, Nipigon Strait, Lake Superior, copper ores of, (1863) p. 707.
- Fluoride of calcium in phosphatic material used in making superphosphate, (77-78) p. 13 H.
- Fluor-spar, occurrence of, in Ontario and Quebec, general note and localities cited, (1863) p. 463.
of Fries I., Westmoreland and Kings Cos., N.B., (70-71) p. 237.
at Haycock mine, Hull, Que., associated with iron-ore, (73-74) p. 146.
at Haycock mine, Templeton, Que., with hematite, (73-74) p. 221.
at Little Shuswap Lake, B.C., purplish, (77-78) p. 101 B.
of McNab Cove, N.S., in limestones (77-78) p. 28 F.

Fluor-spar—*Cont.*

- at Marmora, Ont., lot 6, R. VIII., associated with magnetite, (73-74) p. 200.
 in New Brunswick, localities of occurrence, (72-73) p. 229.
 in Ontario and Quebec, localities for, (63-66) p. 202.
 at Pic River, Lake Superior, disseminated in beds of vicinity, (1863) p. 81.
 on St. Peters road, near McNab Cove, N.B., in Devonian rocks, (77-78) p. 22 F.
 Templeton, Que., occurrence of, in apatite deposits of, (77-78) p. 16 G.
 Trout Lake, Moose River Basin, Ont., observed in amygdaloid on, (80-82) p. 6 C.
 Flux, Madoc furnace, Ont., clay instead of lime, (63-66) p. 110.
 Fqam Falls River, Lake St. John Co., Que., rocks of, (70-71) p. 290.
 Fogs, of vicinity of Queen Charlotte Is., note on, (78-79) p. 43 B.
 on west coast of British Columbia, note on, (79-80) p. 7 B.
 Folded strata on Peace River, sketch showing, (75-76) p. 77.
 Folds in Cretaceous rocks of Cumshewa Inlet, Q.C.Is., note on, (78-79) p. 82 B.
 Foley mine, Leeds and Lanark, Ont., partial analysis of titanic iron-ore, (71-72) p. 123.
 horizon of iron-ore from, (72-73) p. 161.
 veins holding crystals of magnetite at, (73-74) p. 194.
 presence of pyrites with ore at, (73-74) p. 203.
 note on occurrence of apatite and magnetite at, (76-77) p. 206.
 Foley Tp., Ont., magnetic iron-ore in schists at, (76-77) p. 200.
 Laurentian limestones in, (76-77) pp. 205-207.
 Folk-lore and traditions of Haida Indians, (78-79) pp. 149-154 B.
 Folly Island, Casco Bay, N.B., rocks of, (70-71) p. 90.
 or Harris Island, Passamaquoddy Bay, Upper Silurian rocks of, (70-71) p. 162.
 Folly River, N.S., exposures of iron-ore east of, (72-73) p. 21.
 Food used by Haida Indians of Q.C.Is., note on, (78-79) pp. 109-115 B.
 Food plants used by Indians in British Columbia, (75-76) p. 138.
 FOORD, A. H., fossils collected by, (72-73) p. 2.
 work done by, during 1873, illustrations for Palæozoic Fossils, part II., Vol. I., fossils collected in field, (73-74) p. 6.
 drawing of twin crystal of pyrrhotite by, (74-75) p. 306.
 work by, during 1877-78, (77-78) p. 7.
 summary of work for 1879 by, (78-79) p. 5.
 work by, on fish-bearing beds of Scaumenac Bay, Que., (79-80) p. 8.
 work by, during 1881, (80-82) pp. 9-10.
 collection of fossil fishes made by, in 1881, localities, (80-82) p. 10.

FOORD, A. H.—*Cont.*

- work done by, 1882, on *Monticuliporidae* of Canada, (80-82) p. 23.
 fossils collected by, during 1882, (80-82) p. 24.
 work by, during 1883, report published by, resignation from staff, (82-84) p. 16.
 list of fossils collected by, near Finlay Point, Mabou, N.S., (82-84) p. 71 H.
 Foord pit, Pictou, N.S., section of black shales, (66-69) E. p. 71, F. p. 79.
 shales similar to those in, overlying Acadia seam, (66-69) E. p. 80, F. p. 89.
 distance of workings in, from abandoned mines, (66-69) E. p. 90, F. p. 101.
 explosion of gas in, men employed, (66-69) E. p. 91, F. p. 103.
 analyses of coals from, by Hartley and Howe, (66-69) E. p. 372, F. p. 413.
 quality of coal of, as reported by Howe, (66-69) E. p. 372, F. p. 413.
 gas trial of coal from, (66-69) E. p. 434, F. p. 434.
 Foord pit works, Albion mines, Pictou, N.S., (66-69) E. pp. 87-89, F. 98-100.
 engines and engine houses at, (66-69) E. p. 88, F. p. 99.
 pumps and boilers at, (66-69) S. p. 89, F. p. 100.
 Fort-hill belt on Old Man River, Alta., geology of, (82-84) pp. 97-103 C.
 Foot-hills in Southern Alberta, general description of, (82-84) pp. 11-13 C.
 of Rocky Mountains, list of coal seams in, (82-84) p. 131 C.
 Foot-prints of land animals on sandstones, Lloyd's Cove, N.S., (74-75) p. 198.
 Foraminiferal reef in Laurentian times, (63-66) p. 19.
 Foraminifera of limestones of Marble Cañon, B.C., *Loftusia Columbiana*, (77-78) p. 88B.
 FORBES, D., quoted on working of titanic iron-ores of Norway and Sweden, (66-69) E. p. 252, F. p. 279.
 Forbe's automatic quartz crusher, trial of, (71-72) p. 134.
 Fords Harbour, near Nain, Labrador, description of rocks at, glacial striæ, (82-84) p. 11 DD.
 Forest Glen, Big Intervale, N.S., sandstone and grit with trap, (82-84) p. 38 H.
 Forest preservation, prevention of forest fires, (78-79) p. 44 C.
 Forest trees, of vicinity of Babine Lake, B.C., note on, (79-80) p. 23 B.
 of British Columbia, note on distribution of the more important, with map (79-80) pp. 167-177 B.
 of Canada, east of Rocky Mountains, note on northern limits of, with map showing ranges, (79-80) pp. 38-56 C.
 northern limit of, notes on, (78-79) pp. 41-44 C.
 Forests, on edges of prairies rapidly being burnt (74-75) p. 55.

Forests—Cont.

- of Southern British Columbia, note on, (82-84) p. 7 B.
- of British Columbia, destruction by fires, (76-77) p. 19.
- of coast region of British Columbia, note on, (79-80) p. 4 B.
- of Gatineau, St. Maurice and Ashuapmouchouan rivers, Que., upper parts of, (70-71) pp. 296-301.
- of North Thompson and Fraser rivers, B.C., (71-72) p. 70.
- of Eastern New Brunswick, note on causes of depletion, (80-82) p. 6 D.
- of Queen Charlotte Islands, note on, (78-79) p. 42 B.
- Forks, of the Albany River, marine shells in clay at, (71-72) p. 112.
- of Athabasca River, character of river, course of valley, exposures of rocks near, (82-84) pp. 19, 20-21 CC.
- of the Saskatchewan River, arrival of A. R. C. Selwyn at, (73-74) p. 43.
- Forks Lake, Sydney, N.S., red porphyry of, (75-76) p. 372.
- Formations, nomenclature of, adopted by Canadian Survey, with notes on, (1863) pp. 19-21.
- value of term, in Survey Reports, (80-82) p. 48.
- nomenclature of, in British Columbia, (76-77) p. 58.
- geological, in Cape Breton Island, N.S., (76-77) p. 405.
- represented in Queen Charlotte Is., table of, (78-79) p. 48 B.
- Formicidae* of Tertiary beds at Quesnel, B.C., (75-76) pp. 266-267.
- Formica arcana*, Scudder, description of fossil insect from Quesnel, B.C., (75-76) p. 266.
- Forster pit, Pictou, N.S., changes in section from Dalhousie pits, (66-69) E. p. 71, F. p. 79.
- section of strata in, (66-69) E. p. 72, F. p. 80.
- extent of workings of, (66-69) E. p. 91, F. p. 102.
- gas trial of coal, (66-69) E. p. 434, F. p. 484.
- Forster pit works, Albion mines, Pictou, N.S. (66-69) E. p. 87, F. p. 98.
- Forsters Bar, Fraser River, B.C., older crystalline rocks on Fraser River, (77-78) p. 73 B.
- Forsythe Brook, Baltimore, N.B., section of shales at, (76-77) p. 364.
- Forsythe iron mine, Hull Tp., Que., statistics for 1869-71, (71-72) p. 148.
- occurrence of calcite with magnetite in, (73-74) p. 199.
- presence of iron pyrites with ore in, (73-74) p. 203.
- note on, (76-77) p. 296.
- Forsyth Point, Houston Stewart Channel, Q.C.Is., granitoid diorite rocks of, (78-79) p. 51 B.
- note on longitude of, (78-79) p. 238 B.
- Fort Alexander, B.C., outcrops of coal-bearing rocks at, (71-72) p. 58.
- Fort Assiniboine, Athabasca River, appearance of site of, (79-80) p. 81 B.
- description of country north and east of, (79-80) p. 94 B.
- lignite coal in banks of river near, (79-80) p. 126 B.
- Fort Assiniboine to Edmonton, character of country along trail, (79-80) p. 94 B.
- Fort Chimo, Ungava River, tides at, (79-80) p. 30 C., *see* also list of errata, p. xviii.
- tides at, character of river, (82-84) p. 16 DD.
- Fort Chipewyan, Lake Athabasca, small area of land glaciated rocks of, samples of wheat and barley from, (75-76) p. 165.
- description of, (75-76) p. 166.
- glacial striae and drift material at, (82-84) p. 28 CC.
- Fort Churchill, view showing low tide at, (78-79) facing p. 16 C.
- potatoes and turnips grown at, (78-79) p. 21 C.
- evidence of subsidence of water in Hudson Bay, (78-79) p. 21 C.
- latitude taken by R. Bell at, (78-79) p. 22 C.
- notes on fossils from, list of, (78-79) p. 48 C.
- assay of quartz from coast near, (78-79) p. 22 H.
- Fort Colville, Columbia River, B.C., rocks of vicinity, (82-84) p. 22 B.
- Fort Ellice, Man., drift deposits at, distance from Fort Garry, well in drift, (73-74) pp. 23-25.
- barren sandy tract around, (74-75) p. 28.
- description of trail east of, to Rapid River, (74-75) p. 28.
- Fort Frances, Ont., gray granitoid gneiss at, (73-74) p. 89.
- Fort Fraser, B.C., vicinity of, illustration showing Nechacco River Valley, (76-77) facing p. 46.
- Fort Garry, Man., brick clays sent to Survey from, (72-73) p. 7.
- notes on brick clays of, by B. J. Harrington, (72-73) pp. 296-299.
- Fort George, B.C., evidence of greater rain-fall at than to the south-west, arable land at Fort, (75-76) p. 245.
- exposures of lignite formation near, (75-76) p. 256.
- agriculture at, (76-77) p. 53.
- Fort George, N.W.T., latitude determined by A. Webster, 1875, (79-80) p. 175 B.
- Fort George, James Bay, rock specimens from, (75-76) p. 342.
- size of spruce logs near, garden at, (77-78) pp. 24-25 C.
- Fort George to Blackwater Bridge, B.C., description of country near direct trail, (75-76) p. 244-245.
- Fort Hope, B.C., assay of silver ore from Eureka mine, (75-76) p. 5.

- Fort Hope Mountain, B.C., crystalline rocks of, (77-78) p. 67 B.
- Fort Ingall, Temiscouata Lake, Que., Gaspé Series exposed above, (1863) p. 419.
- Fort Kipp, Alta., situation of, (82-84) p. 25 C.
- Fort Liard, N.W.T., wheat and barley grown at, (75-76) p. 165.
- Fort McLeod, Alta., county in vicinity, general description, (82-84) p. 24 C.
rocks exposed near, in valley of Old Man River, (82-84) p. 67 C.
- Fort McLeod, B.C., A. R. C. Selwyn's party at, preparations for descending Peace River, (75-76) pp. 36-37.
mildness of climate at, (75-76) p. 65.
summer frosts at, common plants of vicinity, vegetables grown, (75-76) pp. 140-141.
latitude observation at, (79-80) p. 158 B.
- Fort McLeod to Quesnel, B.C., exploration by A. R. C. Selwyn, with map, (75-76) pp. 31-79.
- Fort McMurray, Athabasca River, cliffs of shale and limestone at, (75-76) p. 171.
fine farm land near Clearwater River at, (75-76) p. 172.
- Fort Pelly, Assa., character of soil near, (74-75) p. 30.
Assiniboine Valley at, (74-75) p. 59.
boring operations near, on Swan River, in 1875, (75-76) pp. 292-293.
analysis of limestone from, (76-77) p. 488.
- Fort Pitt, N.W.T., situation of, crops, timber, (73-74) p. 35.
western limit of limestone boulder drift at, (73-74) p. 57.
depth of drift in well at, (75-76) p. 287.
- Fort Prince of Wales, Churchill, Hudson Bay, evidences of subsidence of water in Hudson Bay, (78-79) p. 21 C.
note on position, size and history of, (79-80) p. 30 C.
illustrations showing ruins of, (79-80) facing p. 30 C.
- Fort Rae, Great Slave Lake, specimens of rocks from, noted, (82-84) p. 29 CC.
- Fort Rupert, B.C., note on coal at, (76-77) p. 124.
- Fort St. James, Stuart Lake, B.C., notes on Permian or Carboniferous fossils, (75-76) p. 97.
botanical notes on trail south of, (75-76) p. 134.
note on crops at, (76-77) p. 51.
rocks near, (76-77) p. 55.
- Fort St. James to Fort McLeod, B.C., country not suitable for grain, (75-76) p. 141.
- Fort St. John, Peace River, climate, soil, vegetation, similar flora to Ontario, richness of soil and vegetation, (75-76) pp. 154-155.
analysis of mirabilite from, (75-76) p. 421.
note on climate at, (79-80) p. 70 B.
the lower shales as exposed near, fossils of, (79-80) p. 116 B.
- Fort Simpson, B.C., land under cultivation at (74-75) p. 75.
rocks at, (74-75) p. 81.
terraces along coast at, (78-79) p. 97 B.
- Fort Simpson, Mackenzie River, barley grown at, other grains and vegetables, (75-76) p. 164.
mean temperature for summer months at, 1875, and Sir John Richardson's observations, (79-80) p. 76 B.
- Fort Whoop-up, Alta., situation of, (82-84) p. 25 C.
- Fort Wrangel, Alaska, rocks at, (74-75) p. 81 at.
- Fort Yukon, barley said to have been grown at, (75-76) p. 165.
- Fort Pierre Group, rocks of, south of Wood Mountain, Assa., (79-80) pp. 36-37 A.
at White Mud River, 49th parallel, (79-80) p. 38 A.
weathering of, at White Mud River, 49th parallel, (79-80) p. 38 A.
see also Pierre Group.
- Fort Union Group, lignites of, nearest available supply for Manitoba, (79-80) p. 14 A.
on the Missouri, character and thickness of, (79-80) p. 14 A.
- Forteau Bay, Labrador, note on limestones of, gneiss outcropping on coast, (82-84) p. 10 DD.
- Fortified camp, old, near Blackfoot Crossing, Alta., (82-84) p. 32 C.
- Fortune Brook, Lake Law, N.S., pre-Cambrian rocks of, (82-84) p. 28 H.
- Fortunes Lake, Miller Tp., Ont., gneiss and limestone at, (72-73) p. 145.
- Forty-mile Coulee, Alta., general description of, (82-84) p. 19 C.
- Forty-ninth parallel of north latitude, west of Rocky Mountains, report on geology of country near, (82-84) pp. 5-42 B.
- Forty-two-mile House, B.C., character of flora near, (75-76) p. 120.
- Fosters Island, Long Reach, N.B., sandy felsites and feldspathic sandstones at, (70-71) p. 117.
- Fosters Lake, Charlotte Co., N.B., diorites of, (70-71) p. 51.
moraines near, (82-84) p. 10 GG.
- Foster seam, Old Fraser mine, Pictou coal-field, N.S., analysis and report on, (66-69) E. p. 392, F. p. 435.
- Fossil bones of Mammoth (?) reported by I. Cowie on White Mud River, west side of Cypress Hills, Assa., (73-74) p. 74.
- Fossil Coulee, Milk River Ridge, Alta., section of Belly River Series, fossils of, (82-84) pp. 50-51 C.
thickness of upper part of Belly River Series at, (82-84) p. 116 C.
- Fossil fishes, of Devonian, in beds of Fleurante, Bay of Chaleurs, N.B., (79-80) p. 13 D.
from Campbellton, N.B., list of, (80-82) pp. 9-10 D.

Fossil fishes—*Cont.*

from Escuminac, Que., and Campbellton, N.B., referred to, (80-82) pp. 9-10.

Fossil graptolites, in loose sandstone at Canterbury, N.B., (70-71) p. 248.

Fossil insects, of interior of British Columbia, collected in 1877 by G. M. Dawson, described by S. H. Scudder, (77-78) pp. 175-185.

from Millstone Grit, reference to Scudder's paper on, (74-75) p. 192.

Fossil localities in Nanaimo district, B.C., visited by Richardson in 1873, and collections made, (73-74) p. 97.

"Fossil Plants of the Lower Carboniferous and Millstone Grit Formations of Canada," note as to date of issue of publication, (73-74) p. 3.

Fossil plants from British Columbia :—

from Tertiary beds of southern part of, by J. W. Dawson, (77-78) p. 186 B.

from Nanaimo and North Saanich, note by J. W. Dawson, (71-72) p. 98.

from Quesnel, (71-72) p. 59.

Suskwa River, from Cretaceous on, (79-80) p. 104 B.

from Vancouver and Queen Charlotte Islands, (72-73) pp. 66-70.

Fossil plants, N.W.T., Cretaceous from, note on by J. W. Dawson, (73-74) p. 85.

of Roche Percée, Souris River, note on collections by A. R. C. Selwyn, (79-80) pp. 51-55 A.

of Edmonton coal-bearing rocks, note on by J. W. Dawson, (73-74) p. 51.

at Cañon of Peace River, (75-76) p. 63.

from Peace River country, note by J. W. Dawson, (79-80) pp. 120-122 B.

note on significance of, (79-80) p. 132 B.

Fossil plants from New Brunswick :—

of Middle and Upper coal formation, list by J. W. Dawson, (70-71) pp. 214-216.

Butlers Cove, Grand Lake, in shales of (72-73) p. 210.

Campbellton, in Devonian of, (79-80) p. 12 D.

Gaspé Bay, in sandstone of, (80-82) pp. 6-7 D.

Grand Lake district, list of, from, (72-73) p. 207.

Nashwasis River, at Falls of, (66-69) E. p. 183, F. p. 203.

Piskahagan River, in Lower Carboniferous of, (72-73) p. 187.

Salmon Creek, in shales on, (72-73) p. 206.

Fossil plants from Nova Scotia :—

of argillaceous shales of Coal Measures of Cape Breton Co., (74-75) p. 196.

collected by Chas. Robb, Sydney coal-fields, (73-74) p. 179.

of Millstone Grit, from Cossit's pits, near Sydney, (74-75) pp. 191-192.

of second inlet from Mira Bay, (74-75) p. 180. in Devonian rocks of Tom's Brook, Richmond Co., (77-78) p. 22 F.

Fossil Point, Peace River, A. R. C. Selwyn's party at, (75-76) p. 44.

limestones at, resembling those at Stuart Lake and Fort McLeod, B.C., (75-76) p. 80.

Triassic fossils at, notes on, (75-76) p. 97.

fossils of Devonian or Carboniferous near, notes on, (75-76) pp. 98-102.

flora of mountain at, elevation of, (75-76) p. 149.

Fossil trees in coal seams, in Nova Scotia, (74-75) p. 204.

at Lepreau Harbour, N.B., (70-71) p. 177.

Fossil tree-trunks changed to black calcite, (72-73) p. 211.

Fossil wood in Tertiary rocks of Blackwater River, B.C., (75-76) p. 256.

Fossiliferous argillites of Crescent Inlet and Echo Harbour, Darwin Sound, Q.C.Is., (78-79) p. 59 B.

Fossiliferous clay of Nanaimo, B.C., (78-79) p. 98 B.

Fossiliferous drift, Wa-toon Brook, Masset Inlet, (78-79) p. 92 B.

Fossiliferous beds, in Carboniferous rocks on Plaster Cove Brooks, (79-80) p. 94 F.

in Devonian rocks of Rocky Bay, Madame Island, N.S., (79-80) pp. 38-40 F.

on Upsalquitch River, N.B., (79-80) p. 16 D.

Fossiliferous limestone, of Carboniferous at Glendale, N.S., (79-80) p. 98 F.

on Graham River, Inverness Co., N.S., (79-80) p. 104 F.

at Hibernia Settlement, N.B., (72-73) p. 190.

Kun-ga Island, Q.C.Is., north point of, (78-79) p. 61 B.

of Lamirondière Bay, vicinity of Lake Huron, (76-77) p. 210.

at Nicola Lake, B.C., in volcanic agglomerate, (77-78) p. 75 B.

at Rush Hill, Wickham, N.B., (72-73) p. 191. of Saskatchewan River, Cretaceous, (73-74) p. 50.

Fossiliferous sandstone, Devonian, Little Falls of St. Croix River, (76-77) p. 331.

unconformable over trap, McLean's mill, N.B., (72-73) p. 195.

and shales on Peace River, below Dunvegan, (75-76) p. 60.

Upper Carboniferous, head of Nerepis River, N.B., (72-73) p. 217.

at Youngs Cove, Grand Lake, N.B., (72-73) p. 212.

Fossiliferous shales at Point Edward, Sydney Harbour, N.S., (73-74) p. 172.

Fossils, replaced by dolomite, examples of, at Ottawa, Ont., (1863) p. 457.

silicified, note on occurrences of, (1863) p. 629.

presented to Museum in 1870, also by purchase, (70-71) p. 10.

collected by staff of Survey in 1870, (70-71) p. 10.

added to Museum in 1871-2, (71-72) p. 14.

Fossils—Cont.

- collected by Peace River expedition, notes by J. F. Whiteaves, (75-76) pp. 96-106.
presented to Museum during 1882, and collections made by officers, (80-82) pp. 23-24.
- Fossils of the post-Tertiary, list of, with references to localities and illustrations of, (1863) pp. 926-928.**
of lacustrine sands of Ontario, fresh-water and land shells, and mammoth remains, etc., (1863) pp. 910-914.
of Leda clay in Ottawa Valley, (1863) pp. 916-917.
wood-cuts of characteristic fossils of, (1863) pp. 963-967.
in terraces, on Pic River, Ont., (70-71) p. 328.
in fresh water marl, Lawlors Lake, N.B., (77-78) p. 35 EE.
in terrace deposits of St. John River and tributaries, N.B., (82-84) p. 41 GG.
- Fossils from boulders, of Natamasagami Lake, Algoma, (70-71) p. 349.**
of Devonian limestone in Peace River country, (79-80) p. 131 B.
- Fossils, Tertiary, from:—**
Bad Lands section, south of Wood Mountain, N.W.T., (79-80) p. 34 A.
Great Valley, N.W.T., International Boundary, (79-80) p. 25 A.
John River, B.C., Sooke District, (76-77) p. 192.
Kamloops Lake, B.C., obscure forms, (71-72) p. 58.
MacKenzie River, list of plant remains collected by Abbé Petitot, (74-75) p. 11.
North-west Territory, collected by Prof. Macoun, (80-82) p. 10.
Porcupine Hill beds, Alta., (82-84) p. 96 C.
Pyramid Creek, International Boundary, (79-80) p. 26 A.
Quatsino Sound, Vancouver Island, B.C., (73-74) p. 265.
Red Deer River, Alta., collected by Hector, (73-74) p. 49.
Skon-un Point, Graham Island, Q.C.Is., list of, (78-79) p. 87 B.
Tulameen River, B.C., (77-78) pp. 132-133 B.
- Fossils, Laramie, from:—**
Bow River, near Blackfoot Crossing, Alta., (82-84) p. 85 C.
Jumping Pound River, Alta., Bow River, beds near, (82-84) p. 82 C.
brackish water deposit at top of Pierre shales, (82-84) p. 115 C.
Scabby Butte, Alta., Lower Laramie, (82-84) p. 79 C.
St. Mary River beds on Milk River, Alta., North Branch, (82-84) p. 37 C.
St. Mary River, Alta., beds on, (82-84) p. 58 C.
Woody Mountain, N.W.T., (73-74) p. 80.
- Fossils, Mesozoic, publication of report on, (76-77) p. 5.**

Fossils, Cretaceous, North-west Territories, from:—

- Big Arm River, N.W.T., (73-74) p. 73.
upper part of Belly River Series, note on, (82-84) p. 116 C.
Belly River Series, on Belly River, (82-84) p. 75 C.
in Chin Coulée, (82-84) p. 53 C.
of Milk River, (82-84) p. 44 C.
of Fossil Coulee, Milk River Ridge, (82-84) p. 51 C.
of South Saskatchewan, near Cherry Coulée, (82-84) p. 76 C.
near Verdigris Lake, north of Milk River, (82-84) p. 52 C.
Drowned Rapid, Athabasca River, (82-84) 14 CC.
Fort St. John, Peace River, (75-76) p. 51.
Pierre Group, south of Wood Mountain, (79-80) p. 37 A.
Peace River, lower shales of, near Fort St. John, (79-80) p. 116 B.
Peace River, lower sandstones of, (79-80) pp. 119-120 B.
Peace River, below Wolverine Point, in loose rock, (75-76) p. 88.
Red Ochre Hills, N.W.T., near Elbow of South Saskatchewan, (73-74) p. 75.
Rock Island Gates, Peace River, Cretaceous and Jurassic, (75-76) p. 96.
Swan River, Man., common forms, (74-75) p. 65.
Smoky River, upper shales of, (79-80) pp. 123-124.
Thunder Hill, Man., (74-75) p. 64.
Upper Pine River, sandstones of, similar to lower sandstone of Lower Forks, notes on by J. F. Whiteaves, (79-80) p. 115 B.
White Mud River, International Boundary, mode of preservation of, (79-80) p. 40 A.
- Fossils, Cretaceous, from British Columbia:—**
Coal Island and North Saanich, Vancouver Island, (71-72) p. 88.
Comox, Vancouver Island, lower shales, Trent River, (72-73) p. 45.
Comox Basin, Vancouver Island, lower conglomerate, (72-73) p. 47.
Denman Island, lower shales on, (72-73) p. 46.
Departure Bay, Vancouver Island, (71-72) p. 82.
Dodd Narrows, Vancouver Island, (73-74) p. 264.
Gabriola Is., Str. of Georgia, (73-74) p. 264.
Hornby Island, middle shales of, (72-73) p. 48.
Nanaimo River, ten miles up, (73-74) p. 262.
Nanaimo River, 2½ miles up, (73-74) p. 262.
Nanaimo River, (76-77) p. 182.
North-west Bay, Vancouver Island, notes on, (73-74) pp. 261-262, and (76-77) p. 167.
Protection Island, Nanaimo Harbour, (73-74) p. 263.
Puntledge River, lower shales, Div. B, (72-73) p. 44.
Sable River, Comox, lower shales, (72-73) p. 46.

Fossils, Cretaceous, from British Columbia—*Cont.*

- Skagit River, (77-78) p. 107 B.
 Interior of British Columbia, general note, (77-78) p. 168 B.
 Queen Charlotte Islands, new species, list of allied genera, (72-73) p. 72.
 North Island and Parry Passage, (78-79) p. 84 B.
 north side Cumshewa Inlet, (78-79) p. 78 B.
 Div. B, conglomerates, (78-79) p. 66 B.
 Skidegate Inlet, lower sandstones, (78-79) p. 70 B.
 lower shales and sandstones, note on, (78-79) p. 68 B.
 agglomerate series, (78-79) p. 70 B.
 Vancouver Island, collected by Jas. Richardson, notes by J. F. Whiteaves, (73-74) pp. 260-268.
 Div. A, productive coal measures, (73-74) pp. 261-264.
 Div. B, lower shale, (73-74) pp. 264-265.
 Fossils of Jackass Mt. Group, on Tatlayoco Lake, B.C., (75-76) p. 254.
 Fossils, Jurassic, from Itasyouco River, B.C., general remarks on, (76-77) p. 158.
 Fossils, from Porphyrite Series, B.C., Itasyouco Fall, (76-77) p. 61.
 Fossils in Nicola Series, B.C., Nicola Lake, note on, (77-78) p. 75 B.
 Fossils, Triassic, from:—
 Bay of Fundy, N.B., new red sandstone, p. 217.
 Houston Stewart Channel, Q.C.Is., (78-79) p. 49 B.
 Klun-kowi Bay, Q.C. Is., in argillites of (78-79) p. 58 B.
 Peace River, N.W.T., notes on, (75-76) p. 97.
 Rose Harbour, Q.C. Is., list of, (78-79) p. 50 B.
 South Island, Skidegate Inlet, Q.C. Is., (78-79) p. 62 B.
 Section Cove, Burnaby Island, Q.C. Is., (78-79) p. 55 B.
 Skincuttle Inlet, Q.C. Is., (78-79) p. 53 B.
 Whipsaw Creek, B.C., (77-78) p. 66 B.
 Fossils of Permian or Carboniferous age, from Stuart Lake, B.C., (75-76) p. 97.
 Fossils, Carboniferous, from:—
 Cape Breton Co., N.S., from Carboniferous limestone of, (76-77) p. 446.
 Boulardrie Island, N.S., (75-76) p. 408.
 Bay of Fundy, in clays under coal seams of south shore, (1863) p. 453.
 Coal Measures at Culton adit, Pictou, N.S., (66-69) E. p. 78, F. p. 87.
 Coal Measures of Cape Breton, N.S., (74-75) p. 199.
 Corbett's mill, Summer Hill Brook, N.B., (72-73) p. 189.
 Dunsinane, N.B., Middle Carboniferous, (72-73) p. 215.
 Flathead Valley, B.C., list of and notes on, (82-84) pp. 41-42 B.

Fossils, Carboniferous—*Cont.*

- Grindstone Island, Magdalen Islands, from bituminous limestone of, (79-80) p. 7 G.
 Mount Mark, Vancouver Island, B.C., from crystalline limestone, (72-73) p. 54.
 Mabou coal-field, N.S., near Finlay Point, list of, from black shales, (82-84) p. 71 H.
 Quaco light-house and Gardners Creek, N.B., plants from, (70-71) p. 210.
 Summer Hill Brook, N.B., conglomerate on, (72-73) p. 189.
 Scott Brook, Richmond Co., N.S., (79-80) p. 63 F.
 Tay River, York Co., N.B., list of, (66-69) E. p. 185, F. p. 205.
 Fossils, Lower Carboniferous, from Butternut Ridge, N.B., (70-71) p. 208.
 from Coverdale River, Albert Co., N.B., (70-71) p. 209.
 from Gardners Creek, list of, (70-71) p. 210.
 from Owls Head, N.B., sandstone, (70-71) p. 211.
 from Brighton outlier, of Carleton Co., N.B., (70-71) p. 243.
 from limestone at Lower Clunes Settlement, N.B., (72-73) p. 187.
 of Southern New Brunswick, general note on *Palæoniscus modiolus*, (78-79) p. 18 D.
 characteristic of Millstone Grit in Cape Breton Island, N.S., (73-74) p. 176.
 Fossils, Cache Creek Group, Carboniferous:—
 of Upper Cache Creek Group, B.C., (71-72) p. 61.
 of Lower Cache Creek Group, B.C., from near Clinton, (71-72) p. 61.
 from Marble Cañon, B.C., (77-78) p. 89 B.
 from South Thompson River, east of Kamloops, (77-78) p. 80 B.
 from Bonaparte River, B.C., (77-78) pp. 93-94 B.
 Fossils of Upper Series, of pre-Carboniferous rocks, N.B., Cox's Brook, (70-71) p. 198.
 Fossils in pre-Carboniferous rocks of Inniskillen Settlement, N.B., (70-71) p. 193.
 Fossils from Perry sandstone at St. Andrews and Perry, Maine, (70-71) p. 202.
 Fossils, Devonian, from:—
 Athabasca River, (82-84) p. 23 CC.
 Fossil Point, Peace River, (75-76) pp. 98-102.
 Famine River, Que., altered Devonian strata, (1863) p. 428.
 Gaspé, upper division of Devonian of, at Indian Cove, Grand Grève and Little Gaspé, (80-82) pp. 13-14 DD.
 Gaspé, middle division of Devonian of, at Cape Gaspé and Bon Ami Cape, list of, (80-82) p. 13 DD.
 Gaspé, lower division of Devonian of, at Gaspé and the York and Dartmouth rivers, (80-82) p. 14 DD.
 Grand Grève and Gaspé, list of, (82-84) p. 24 E.
 Griffin Cove River, Gaspé, (80-82) pp. 7-8 DD.

Fossils, Devonian—Cont.

- Lake Winnipegosis, (74-75) p. 68.
 Lepreau Basin, N.B., (70-71) p. 177.
 Mark Point, St. Peters Bay, N.S., (77-78) p. 18 F.
 Mattagami River, Grand Rapids, Ont., notes by J. F. Whiteaves on, (75-76) pp. 316-320.
 Miners Brook, Gaspé, list of, (82-84) p. 23 E.
 Missinaibi River, lowest portage on, notes on, (75-76) p. 320.
 Missinaibi River and Moose River, provisional list of, (77-78) pp. 5-6 C.
 Peace River, first exposure, (75-76) p. 44.
 Peace, Athabasca and Clearwater rivers, collected by J. Macoun, notes on, (75-76) pp. 103-106.
 Percé Rock, Que., list of, (80-82) pp. 8-9 DD.
 Pine River, B.C., upper part of, (79-80) p. 112 B.
 Red River, mouth of, on Peace River, (75-76) p. 89.
 Robinson Cove, Richmond Co., N.S., (77-78) p. 19 F.
 St. John, N.B., list of, (70-71) p. 172.
 St. John River, N.B., "Greywacké System," (70-71) p. 20.
 Scaumenac Bay, list of, (80-82) p. 10 D.
 Snake Island and Flat Rock Bay, Lake Winnipegosis, described by H. Y. Hind, (73-74) pp. 52-53.
 Fossils of Portage and Chemung Group at Kettle Point, Lake Huron, (1863) p. 388.
 Fossils of Hamilton Formation, found in Bosanquet Tp., Ont., on River aux Sables, (1863) pp. 383-384.
 in Bosanquet Tp., Ont., upper beds of, (1863) p. 385.
 Fossils of Corniferous Formation, in Haldimand and Norfolk, Ont., (1863) pp. 369-370.
 on Lake Huron, north of Point Douglas, (1863) pp. 371-372.
 on Maitland River, near Goderich, Ont., (1863) p. 376.
 at St. Marys, Ont., (1863) p. 378.
 near Amherstburg, Ont., (1863) p. 378.
 from Goderich boring, (76-77) p. 242.
 Fossils of Oriskany sandstone, found in North Cayuga, Ont., (1863) pp. 360-361.
 wood-cuts of, (1863) pp. 960-962.
 Fossils, Gaspé Series from:—
 Bon Ami Point, N.B., inclosed in trap at, (79-80) p. 20 D.
 Chatte River, Gaspé, (1863) p. 411.
 Dudswell, Que., (1863) p. 433.
 Dartmouth River, Gaspé, (1863) p. 881.
 Gaspé Basin, sandstones north side of, (1863) p. 398.
 Lake Memphremagog, Que., (1863) p. 436.
 Magdalen River, (1863) p. 407.
 Matanne River, (1863) p. 413.
 Matapedia Lake, Que., (1863) p. 415.
 Port Daniels, Que., (1863) p. 444.
 Rocky Brook, N.B., discovery of, in metamorphic slates, (66-69) E. p. 190, F. p. 210.
 White Cape, Gaspé and Mt. Joli, (1863) p. 439.

Fossils—Cont.

- York River, plants of, (1863) p. 885.
 Fossils, Lower Helderberg, from:—
 Cape Bon Ami, (1863) p. 450.
 Water-lime Formation, found at Rattlesnake Falls, Cayuga, Ont., (1863) p. 355.
 wood-cuts showing sixteen species, (1863) pp. 957-958.
 wood-cut of, *Eurypterus remipes*, DeKay, (1863) p. 959.
 Grand Carrière, Gaspé, (82-84) p. 30 E.
 Fossils of Guelph Formation, found near Guelph, Ont., (1863) p. 337.
 wood-cuts of typical species of, (1863) pp. 337-344.
 Dumfries Tp., Ont., (1863) pp. 338-339.
 Elora, Ont., (1863) p. 340.
 Fergus, Ont., (1863) pp. 341-342.
 Galt, Ont., (1863) p. 339.
 Hespeler, Ont., (1863) p. 340.
 Saugeen River, Ont., (1863) p. 342.
 Fossils of Upper Silurian, from Black Bay, southern N.B., (70-71) p. 161.
 near Blue Mt., N.B., (70-71) p. 167.
 from Back Bay, N.B., and Pembroke, Maine, note on, (76-77) p. 349.
 from Cape Rosier Bay, Gaspé, (82-84) p. 30 E.
 near mouth of Jones Creek, Kings Co., N.B., (70-71) p. 166.
 from Long Reach, N.B., (77-78) p. 1 E.
 from Oak Bay, N.B., (76-77) p. 324.
 from Pembroke, Maine, and Denbo Point, Maine, (70-71) p. 162.
 from Waweig Bay, N.B., (76-77) pp. 324-325.
 Fossils of Mascarene Series, note on, (70-71) p. 144.
 at McLeods Millstream, (70-71) p. 147.
 in divisions 2 and 4, (74-75) pp. 87-88.
 Fossils of Niagara Formation:—
 between Chiefs Point and Cape Hurd, on Lake Huron shore, (1863) pp. 332-333.
 in Derby Tp., Ont., (1863) p. 329.
 near Dundas, in Flamborough West, Ont., (1863) pp. 325-326.
 on Drummond Island, (1863) p. 333.
 at Isthmus Bay, Georgian Bay, (1863) p. 332.
 on Lake Temiscaming, (1863) p. 335.
 on Manitoulin Islands, (63-66) p. 176.
 near Rockwood, Ont., (1863) p. 330.
 at Thorold, Ont., (1863) pp. 322-323.
 Fossils, Clinton Formation:—
 from Wentworth Station, I.C.R., list of, (74-75) p. 10.
 of dolomite band, base of Clinton on South Bay (Manitoulin Gulf) Manitoulin Is., (1863) p. 320.
 near Dundas, Ont., (1863) pp. 313-314.
 Fossils of Medina Formation, from Manitoulin Island, (63-66) p. 173.
 dolomite band, top of Medina, at Cabot Head, Georgian Bay, (1863) p. 319.
 at St. Catharines and Niagara Tp., Ont., (1863) p. 312.

- Fossils of Middle Silurian, wood-cuts of typical species from Anticosti Group, Medina, Clinton and Niagara, (1863) pp. 298-336.
- Fossils of the Silurian, near Black Cape, Bay of Chaleurs, (82-84) p. 27 E.
- outlier on Kenogami River, (70-71) p. 339.
- of Scaumenac River, (82-84) p. 26 E.
- from Tobique River, N.B., determined by E. Billings, (66-69) E. p. 201, F. p. 223.
- Fossils of the Cambro-Silurian:—
- list of, with authors, (1863) pp. 936-954.
- Little and Great Churchill rivers, from junction of, (78-79) p. 48 C.
- of Gregwa and Indian brooks, N.S., McLeod Brook, (76-77) pp. 428-430, and McAdam Brook, (76-77) p. 436.
- of Indian Brook, N.S., (76-77) p. 430.
- Keewenaw Peninsula, from sandstone of, (66-69) E. p. 475, F. p. 529.
- at Lower Fort Garry, collected by A. R. C. Selwyn, (72-73) p. 18.
- on McNeils Brook, Cape Breton Co., N.S., (77-78) p. 12 F.
- from St. Andrews, Man., notes on, (78-79) pp. 45-47 C.
- of Trout Brook road, Cape Breton Co., N.S., near McKay's, (77-78) p. 12 F.
- Fossils from Anticosti Group:—
- of first division, found near Fox Point, Anticosti, (1863) p. 308.
- of second division, exposed at Sand-top Bay and Gull Cape, Anticosti, (1863) pp. 307-308.
- at Junction Cliff and Ellis Bay, Anticosti Island, Que., (1863) pp. 298-300.
- list of, given in sections from Junction Cliff to South-west Point, (1863) pp. 298-304.
- at Cormorant Point, Anticosti, Que., (1863) pp. 305-306.
- Fossils of Hudson River Formation:—
- on Don, Humber and Credit rivers, Ont., (1863) p. 213.
- of Gore Bay, Manitoulin Island, (66-69) E. p. 113, F. p. 127.
- on Little Saskatchewan River, Man., at Four-mile Rapid, (74-75) p. 38.
- on Manitoulin Island, (63-66) p. 172.
- on Manitoulin Island, at Cape Smyth, (1863) p. 218.
- on Magdalen River, Gaspé, (1863) p. 268.
- at Point Boucher and Point Rich, Georgian Bay, (1863) p. 214.
- on Rabbit Island, Lake Huron, (1863) p. 217.
- from Russell Tp., Ont., sandstones of, (1863) p. 219.
- at St. Antoine, Que., (1863) p. 203.
- from Stony Mountain, Man., list of, notes on, (78-79) pp. 49-50 C.
- Fossils of Utica Formation, wood-cuts of species, (1863) pp. 200-204.
- in Collingwood Tp., on Nottawasaga Bay, Ont., (1863) p. 211.
- in Russell Tp., Ont., (1863) p. 219.
- Fossils of Trenton Formation:—
- note on occurrence of, (77-78) p. 4 A.
- Fossils of Trenton Formation—*Cont.*
- at Fenelon Falls, Sturgeon Lake and Lindsay, Ont., (1863) p. 191.
- at Lake Temiscaming, in boulders, (1863) p. 335.
- at Montreal, in limestone of, (1863) pp. 137-138.
- at Murray Bay, Que., list of, (1863) p. 163.
- of Manitoba, by R. Bell in 1880, list of, from Galena limestone, (79-80) pp. 57-58 C.
- of Nelson River, notes on, (78-79) pp. 47-48 C.
- in Norman Cove, Nfld., (1863) pp. 872-873.
- at Ottawa, lists of, (1863) pp. 166-167.
- in beds near Potsdam Group, St. Albans, Vt., (1863) p. 858.
- from Bay of Seven Islands, mentioned as being Trenton Group, (66-69) E. p. 307, F. p. 340.
- wood-cuts of typical species of, (1863) pp. 156-190.
- Fossils of the Birdseye and Black River Formations, wood-cuts of, (1863) pp. 139-153.
- at Montreal, (1863) pp. 136-137.
- from Loughborough, (1863) p. 185.
- at Lacloche Island and vicinity, (1863) pp. 194-195.
- from Snake Island and Thessalon Island, (1863) p. 195.
- at Campment d'Ours, Lake Huron, (1863) p. 196.
- Fossils of Chazy Formation, wood-cuts of, (1863) pp. 124-133.
- of Highgate Springs, Vt., with Black River and Trenton, (1863) p. 274.
- of Grenville, Que., list of, (1863) p. 123.
- Fossils of Calcareous Formation, wood-cuts showing, (1863) pp. 113-122.
- near Beauharnois and on south side of St. Lawrence, (1863) pp. 114-115.
- of Geneviève Islands, Gulf of St. Lawrence, list of, (1863) p. 122.
- of west coast of Newfoundland, (1863) pp. 289-291.
- Fossils of Potsdam Formation, in Lansdowne and Bastard Tps., Ont., (1863) pp. 92-93.
- of Bradore Bay, Strait of Belle Isle, (1863) p. 288.
- of east arm of Bonne Bay, Nfld., (1863) pp. 865-869.
- in pebbles of conglomerates of 1st and 2nd divisions, Lower St. Lawrence, (66-69) E. p. 129, F. p. 145.
- of lower part of, at St. Roche and Rivière Ouelle, Que., (66-69) E. p. 125, F. p. 140.
- Fossils of Quebec Group, wood-cuts of, (1863) pp. 226-286.
- note on occurrence of, (77-78) p. 4 A.
- list of graptolites from Lévis, (1863) pp. 232-233.
- Bay St. Paul, Nfld., graptolites, (1863) p. 878.
- Cape Norman, Nfld., (1863) p. 872.
- Cow Head, Nfld. (1863) p. 877.
- Farnham Tp., Que., list of, (1863) pp. 239-240.

- Fossils of Quebec Group—*Cont.*
 Gros Mâle, Que., (80-82) p. 22 DD.
 Gagnon Beach, Tartigo River, Que., (80-82) pp. 29-30 DD.
 Marsouin River, Que., (80-82) p. 23 DD.
 Marsouin River, Que., in sandstone on, (1863) p. 267.
 Michaud Bay, Que., list of, (80-82) p. 26 DD.
 Table Head, Nfld., in section at, (1863) pp. 869-871.
- Fossils of Lévis Formation, in rocks of west coast of Newfoundland, (1863) p. 293.
 in section at Phillipsburgh, Que., (1863) pp. 278-279.
 at Point Lévis, list of, from conglomerate bands in, (1863) pp. 862-864.
 localities for, (63-66) p. 31.
 of vicinity of mouth of St. Anne River, Gaspé, Que., (80-82) p. 25 DD.
 of Grand Michaud Point, Que., list of, (80-82) pp. 27-28 DD.
 of Matane, Que., (82-84) pp. 28-29 DD.
- Fossils of Phillipsburgh Series, in divisions C and D, upper part, at Phillipsburgh, Que., (1863) pp. 845-846.
- Fossils of Primordial, of Porter and Hanford Brooks, N.B., list of, (77-78) pp. 30-31 DD.
- Fossils of St. John Group, discovery in 1865, (70-71) p. 25.
 published in Acadia Geology, list of, (70-71) p. 134.
 collected from Coldbrook, N.B., (70-71) p. 138.
 from Ratcliffes Mill-stream, N.B., (70-71) p. 139.
 from Drurys Cove, determined by E. Billings, (70-71) p. 140.
 from Caton Island, Long Reach, N.B., (70-71) p. 141.
- Fossils from gold-bearing rocks of Nova Scotia, *Eophyton*, (70-71) p. 269.
- Fossils from Lake Mistassini limestones, Cambrian, (70-71) p. 293.
- Fossils, supposed Laurentian, from Grand Calumet, with wood-cuts of, (1863) pp. 48-49.
- Fountain, B.C., character of the Fraser River Valley at, (77-78) p. 10 B.
 rocks of Jackass Mountain Series (Cretaceous at), (77-78) p. 110 B.
- Fountain Creek, Fraser River, B.C., rocks of Jackass Mountain Series, followed by porphyrites, (77-78) p. 111 B.
- Fourchu road, Richmond Co., N.S., felsites of, (77-78) p. 10 F.
 sandstone, grit and conglomerate overlying syenite, near McAskill's, (77-78) p. 16 F.
- Four-foot seam, Cape Dauphin, N.S., section of, (74-75) p. 256.
- Four-mile Creek, Canterbury Parish, Carleton Co., N.B., conglomerates in Cambro-Silurian, (82-84) p. 14 G.
- Fourgier Point, Rocky Bay, near Arichat, N.S., porphyritic felsite of, (79-80) p. 5 F.
 Carboniferous rocks of, gypsum, (79-80) p. 55 F.
- Fournier iron-ore deposit, South Sherbrooke Tp., Ont., work done, horizon of beds, quality of ore, (74-75) pp. 121-122.
- Fournier mine, South Sherbrooke Tp., Ont., magnetic iron-ore of, (70-71) p. 313, and (72-73) p. 161.
 partial analysis of iron-ore from, (71-72) p. 123.
 analysis of felspar from, (73-74) p. 198.
 presence of iron-pyrites with ore of, (73-74) p. 203.
 ore raised at, association of vein, (73-74) p. 258.
 note on, (76-77) p. 296.
- Fourth Gold Brook, Middle River, N.S., syenite, etc., gold reported on, (82-84) p. 29 H.
- Fowlers Falls, Kings Co., N.B., Upper Silurian rocks at, (70-71) p. 168.
- Fowler's pit, lot 3, R. I., Portland Tp., Que., description of deposit at, (82-84) p. 13 J.
- Fowler Station, C.P.R., Ont., narrow band of argillaceous shale on Feist Lake, (80-82) p. 13 C.
- Fox Bay, Anticosti, Que., first division of Anticosti Group, thickness, fossils of, (1863) p. 308.
- Fox Brook, N.S., syenitic rocks of, (76-77) p. 408.
 Carboniferous rocks of, (76-77) p. 439.
 iron-ore at, (76-77) p. 450.
- Fox Hill, Nelson River, description of, (78-79) p. 27 C.
- Fox Hill Group, on the Missouri River, thickness and character of, (79-80) p. 14 A.
 in Bad Lands section, south of Wood Mt., N.W.T., (79-80) p. 34 A.
- Fox Hill period, Cretaceous, conditions of deposit during, (79-80) p. 134 B.
- Fox Hill sandstones, of Southern Alberta, note on general characters, (80-82) p. 7 B.
 of Milk River Ridge, Alta., section of, in Pot-hole River, (82-84) p. 49 C.
 on St. Mary River, Alta., (82-84) p. 59 C.
 on Old Man River, Alta., at Rye Grass Flat, (82-84) p. 68 C.
 brackish-water fauna of, relation to Pierre shales, thickness, (82-84) pp. 114-115 C.
- Fox Hill Series, exposed on North Branch Milk River, Alta., (82-84) p. 37 C.
- Fox Islands, Georgian Bay, rocks probably of Trenton Group, (1863) p. 193.
 boulders of jasper conglomerate found on, (1863) p. 894.
- Fox River, Anticosti, Que., note on exposures of first division of Anticosti Group on, (1863) p. 308.
 attitude of beds at, (80-82) p. 18 DD.
- Fox River Map-sheet of parts of Gaspé Co., Que., and Anticosti, issued in 1884.

- Foyles Brook, Baddeck River, N.S., limestones of, (82-84) p. 50 H.
- Fragment included in volcanic rock, Kamloops Lake, description and figure of, (77-78) p. 118 B.
- Fragmental rocks, Goulais Bay, Ont., (63-66) p. 116.
- Framboise Basin of Lower Silurian in Cape Breton, N.S., (77-78) pp. 15-16 F.
- Framboise school-house, N.S., felsites near, (77-78) p. 9 F.
- Framboise River, N.S., felsite, quartz-felsite and syenite of, (77-78) p. 4 F.
- Frampton Tp., Que., axis of St. Joseph anticline, rocks of, (1863) p. 257.
- copper-bearing rocks extend through, (1863) p. 731.
- copper localities in, (63-66) p. 320.
- Francis Landing, Grand Lake, N.B., openings for coal at, (72-73) p. 204.
- Francis River, B.C., silver ore from near Dease River, (76-77) p. 147.
- François Lake, or Ne-to-bun-kut, B.C., general description of, terraces, (76-77) p. 47.
- enumeration of islands in, (76-77) p. 50.
- Tertiary and Mesozoic rocks of, (76-77) p. 83.
- map of basin of, (76-77) p. 17.
- Franklin Inlet, Georgian Bay, rocks of vicinity, (76-77) pp. 200-201.
- Franklin mine, Michigan, cupriferous bed, (63-66) p. 153.
- Franklins River, above Oxford Lake, Keewatin, named by R. Bell, rocks observed, character of river, (77-78) pp. 4-5 CC.
- view up, from Wapinaipinis Portage, (77-78) facing p. 9 CC.
- horizontal striæ in ravine of, (77-78) p. 26 CC.
- Franklin stamp works, Mich., assays from waste heap of, (63-66) p. 163.
- Franklinite, mode of occurrence in New Jersey, (63-66) p. 216.
- Frankville, Kitly Tp., Ont., clay for making white bricks, (1863) p. 898.
- brown clay with nodules, (1863) p. 904.
- Fraser area, Pictou coal-fields, N.S., former workings, McGregor Colliery, (66-69) E. p. 96, F. p. 107.
- oil-coal workings, (66-69) E. p. 96, F. p. 107.
- Fraser Fort, B.C., description of vicinity of, (76-77) p. 46.
- illustration showing valley of Nechacco at crossing, (76-77) facing p. 46.
- Fraser Lake or Nau-tley, B.C., general description of, benches on sides of valley, (76-77) p. 46.
- Tertiary and Mesozoic rocks of, (76-77) p. 83.
- Fraser mine, Pictou, N.S., note on workings in oil-coal, (66-69) E. p. 96, F. p. 108.
- Fraser mine, Pictou, N.S.—*Cont.*
report on and analysis of coal from, (66-69) E. p. 392, F. p. 435.
- oil and stellar coal, gas trial of, at Pictou, (66-69) E. p. 434, F. p. 484.
- Fraser Reach, coast of British Columbia, gneiss rocks, (74-75) p. 77.
- Fraser River, B.C., description of valley from Hope to Lytton, (71-72) p. 23.
- character of upper sources of, (71-72) p. 50.
- superficial deposits along, (71-72) pp. 54-56.
- gold in lower part of valley of, (71-72) p. 56.
- at mouth of Quesnel River, lignite and iron-ore from, (71-72) pp. 66-67.
- building stone of cliffs above Yale, (71-72) p. 64.
- between Fort George and Giscome Portage, (75-76) p. 67.
- lignite formation on, exposures of, (75-76) p. 257.
- the gravels of, between Quesnel and Fort George, (75-76) pp. 263-264.
- rocks between Fort George and Quesnel, (76-77) pp. 57-58.
- Nechacco rocks on upper part of, (76-77) p. 74.
- placer mines of, (76-77) p. 118.
- coal on lower part of, locality of occurrence, (76-77) p. 126.
- cinnabar on, (76-77) pp. 133, 149.
- note on gold workings on, (76-77) p. 141.
- lignite on, (76-77) p. 145.
- copper from, (76-77) p. 148.
- platinum from, (76-77) p. 148.
- nickeliferous sand from, (76-77) p. 149.
- extent of Mesozoic rocks on, (77-78) pp. 9-10 B.
- older crystalline rocks on, above Lytton, (77-78) p. 73 B.
- elevation of terraces on, Yale to Lytton, (77-78) p. 148 B.
- note on gold of, (77-78) p. 154 B.
- note on auriferous gravels at Hills Bar, stone mortar found in, (82-84) p. 37 B.
- Fraser River valley, B.C., native fruits in, (71-72) p. 69.
- elevations on trail from Soda Creek to Chilcotin River, (75-76) p. 235.
- botanical report on vegetation, etc., of, (75-76) pp. 114-128.
- description of vegetation of lower part of, (75-76) pp. 115-116.
- character of valley, uniform grade, (77-78) p. 8 B.
- general description to Lytton, (77-78) pp. 7-10.
- on superficial deposits near mouth of, (82-84) p. 33 B.
- Fraser or Mullin's seam, thickness of, at Sydney Harbour, N.S., (74-75) p. 185.
- thickness and analysis of, (74-75) pp. 192-193.
- position of, in section at Sydney Harbour, N.S., (74-75) p. 229.
- Fraser's five-foot seam, Pictou, N.S., (66-69) E. p. 44, F. p. 49.

- Fraser's fault, bearing of, across Pictou coal-fields, N.S., (66-69) E. p. 45, F. p. 50.
- Fraser's house, section of limestone at, on McLellan Brook, Pictou Co., N.S., (66-69) E. p. 8, F. p. 9.
- Fraser's Mt., Pictou Co., N.S., rocks at foot of. (66-69) E. p. 8, F. p. 9.
- Fraser's quarry, Drummond Island, Michigan, section at, (66-69) E. p. 116, F. p. 130.
- Fraser Ogg's quarry, N.S., oil-coal from pit on road to, (66-69) E. p. 106, F. p. 120.
- Fraser-Saddler area, Pictou, N.S., thickness of seam, note on openings made, (73-74) p. 230.
analysis of limonite from, (73-74) p. 233.
- Frazinus Americanus*, Linn, note on range of, (79-80) p. 52 C.
- Frazinus sambucifolia*, Lam., note on northern limit of in Canada, (79-80) p. 48 C.
- Frazinus viridis*, Michaux, note on northern limit of in Canada, (79-80) p. 49 C.
- Frederick Brook, N.B., contact of shales and conglomerates on, (76-77) pp. 366-367.
- Frederick Island, Q.C.Is., note on situation of, (78-79) p. 40 B.
Indian village, Dixon's description of people from, (78-79) p. 171 B.
- Fredericton, N.B., occurrence of wad or bog-manganese at, (82-84) p. 47 GG.
sections of terraces at, (82-84) pp. 38-39 GG.
- Fredericton Junction, N.B., gray Carboniferous beds of, (72-73) p. 220.
- Fredericton and St. Andrews road, N.B., ridges of gray grit, (66-69) E. p. 181, F. p. 200.
- Fredericton Map-sheet, N.B., part of Sunbury, York and Carleton Cos., issued in 1884.
- Freezing methods of making salt, (74-75) p. 276.
- Freestone, note on, from Cape Breton, N.S., localities, (75-76) p. 416.
greenish-gray of Pine-tree Brook, Pictou, N.S., (66-69) E. p. 10, F. p. 10.
- Friction breccia, in limestone anticline east of Okanagan Lake, B.C., (77-78) p. 103 B.
- Fremont's shaft, Harvey Hill mine, Que., description of, (1863) p. 729.
- FRENCH, TRUMAN, discoverer of Acadia seam, Pictou, N.S., reference to, (66-69) E. p. 97, F. p. 109.
- French area, Pictou coal-fields, N.S., workings, Nova Scotia Colliery, (66-69) E. pp. 103-104, F. pp. 116-117.
- French Channel from Ogoké River, branch of Albany River, (71-72) p. 108.
- French Co.'s mines, Portland Tp., Que., description of pits at, (82-84) pp. 13-15 J.
- French Cove, near New Haven, N.S., syenite and gneiss at, (82-84) p. 19 H.
- French Creek, Pleasant Valley, B.C., gold workings on, (76-77) p. 137.
branch of Downie River, B.C., gold workings on, (76-77) p. 141.
- French Lake, N.B., exposures of Coal Formation rocks on, (72-73) p. 211.
- French River, Ont., Huronian boulders common on, (1863) p. 894.
- French River, St. Annes Bay, N.S., rocks in, (82-84) p. 15 H.
Lower Carboniferous limestone series of, (82-84) p. 52 H.
- French road, Cape Breton Co., N.S., felsites exposed near coast, (77-78) p. 8 F.
Lower Silurian rocks on, (77-78) p. 13 F.
- French Vale, N.S., Carboniferous limestone of, (75-76) p. 405.
crystalline limestone of, (76-77) p. 426.
Lower Silurian rocks, on the road to, (76-77) p. 429.
Carboniferous rocks of, (76-77) p. 439.
note on iron-ore deposits of, (77-78) p. 28 F.
analysis of graphitic shale from, (79-80) pp. 1-2 H.
- French Vale road, N.S., note on quality of ore near Curry's, (82-84) p. 91 H.
- Frenchmans Creek or White Mud River, International boundary, Assa., sections of Pierre Group on, (79-80) p. 38 A.
- French's Tunnel, Pictou, N.S., shaly coal of Millstone Grit, (66-69) E. p. 104, F. p. 117.
- Fresh-water deposits in Manitoba, Red River Basin, (74-75) p. 49.
- Fresh-water mollusca, on east bank Albany River, shells in clays above marine clays, (71-72) p. 112.
- Manitoba and Nelson River, list of, (78-79) pp. 61-62 C.
- Nelson River and Manitoba, collected by R. Bell in 1880, (79-80) pp. 75-76 C.
- New Brunswick, partial list of, (82-84) p. 46 GG.
- Niagara Falls, found in river deposits, (1863) p. 913.
- Nottawasaga River, Ont., shells in sands of, (1863) p. 910.
- Freshwater Creek, Sydney, N.S., faults in Carboniferous at, (74-75) p. 184.
- FREW, W. B., referred to, (63-66) p. 146.
- Friars Head, Campo Bello, N.B., rocks at, (70-71) p. 133.
- Friar Point, Inverness Co., N.S., Coal Measures exposed on coast at, (82-84) p. 76 H.
- Friponne River, Que., exposure of Trenton limestone on, (1863) p. 160.
- FRITZ, W. S., referred to, (76-77) p. 224.
- Frog Creek, west of Fort Pitt, N.W.T., width and depth at trail-crossing, (73-74) p. 36.
- Frog Mountain, near height-of-land, north of Lake St. John, Que., numerous lakes, (71-72) p. 117.
- Frontenac Co., Ont., work in 1870 by Vennor and Broome, (70-71) p. 8.
report on part of, in abstract report by H. G. Vennor, (70-71) pp. 309-315.
summary of work by H. G. Vennor in 1871, (71-72) p. 120.

Frontenac Ce., Ont.—*Cont.*

- notes and assays of iron-ores of, (71-72) pp. 121-123.
- phosphate, localities worked in 1871, (71-72) pp. 123-129.
- part of, report on, by H. G. Vennor, (72-73) pp. 136-179.
- rocks of northern part of, (72-73) pp. 138-143.
- granite and gneiss series of northern part of, (72-73) pp. 147-150.
- limestone bands in Laurentian of, (72-73) p. 160.
- rocks of Bedford, Storrington and Loughborough Tps., (72-73) pp. 162-163, 170-174.
- report on crystalline limestones and phosphate deposits of Loughborough and Bedford Tps., (73-74) pp. 104-109.
- progress report on explorations in rear portion of, by H. G. Vennor, (74-75) pp. 105-165.
- iron-ore deposits of, included in, (74-75) pp. 112-122.
- note on mode of occurrence of plumbago, (74-75) p. 164.
- for general geology see also *Part I*, p. 12.
- Frontenac lead mine, Loughborough Tp., Ont., description of, (66-69) E. p. 164, F. p. 182.
- extent of working in 1870, (70-71) p. 314.
- lead ores of, (70-71) p. 314.
- statistics for 1869, (71-72) p. 147.
- note on commencement of operations, (74-75) p. 163.
- Frontenac road, Ont., chain survey made, section of rocks on, (72-73) p. 157.
- Frost Village, Shefford, Que., copper ore discovered near, (1863) p. 721.
- Frost in soil at Dunvegan, summer of 1879, (79-80) p. 69 B.
- of Nelson River valley and vicinity, (77-78) p. 30 CC.
- in Peace River district, note on, (79-80) p. 73 B.
- date of first, at St. John, Peace River, 1875, (75-76) p. 61.
- recorded by A. R. C. Selwyn, on the Saskatchewan River, 1873, (73-74) p. 58.
- Fruits, native, of the interior of British Columbia, (71-72) p. 69.
- Fryes Island, L'Etang Harbour, N.B., conglomerates, possibly Coastal Series, (70-71) p. 86.
- crystalline rocks, limestones and serpentines of, (70-71) p. 88.
- Upper Silurian of, section of beds, fossils discovered on, (70-71) pp. 160-163.
- galena, calc-spar, barytes at, (70-71) p. 228.
- veins of heavy-spar and flour-spar at, (70-71) p. 237.
- Frye road, Charlotte Co., N.B., syenites, (70-71) p. 52.
- Fuchsits, chromiferous mica resembling, from Sutton and Bolton Tps., Que., (1863) p. 494.
- Fucoids, in Carboniferous sandstone, Dog Brook and McNeil Brook, N.S., (76-77) pp. 439-440.

Fucoids—*Cont.*

- of Gillis Brook, N.S., (76-77) p. 436.
- Lower Silurian in Steele Brook, N.S., (76-77) p. 429.
- note on occurrence in Potsdam rocks, (1863) p. 100.
- Fuel used in evaporating brine, (wood, coal and petroleum), (74-75) pp. 282-284.
- Fulford Harbour, Vancouver Island, B.C., occurrence of Cretaceous fossils at, (71-72) p. 88.
- crystalline rocks of, (71-72) p. 90.
- garden produce cultivated at, (71-72) p. 96.
- Fulling-mill fault, Pictou coal-fields, N.S., (66-69) E. p. 25, F. p. 28.
- Fulling-mill three-foot seam, near Pictou, N.S., (66-69) E. p. 51, F. p. 57.
- Fundamental rocks, in Eastern Ontario, (76-77) p. 266.
- FUNTER, CAPT., note on voyages of, to Queen Charlotte Islands, (78-79) p. 11 B.
- Fur trade, account of the first visit of the Europeans to Queen Charlotte Islands, (79-80) pp. 154-161 B.
- Furnace Falls, or Lindhurst, Ont., note on blast-furnace at, (73-74) p. 246.
- Furnaces, sandstone for, note on occurrences of in Canada, (1863) p. 799.
- soapstone for, localities of occurrence, (1863) p. 796.
- for converting ore into malleable iron, those in use, (66-69) E. p. 270, F. p. 299.
- of steamships in navy changed to burn Newcastle coal, (66-69) E. p. 431, F. p. 481.
- at Woodstock, N.B., location, sizes, capacity, engines, cost of charcoal, (74-75) p. 103.
- Fur-seal spear, used by Haida Indians, (78-79) p. 144 B.
- Fusulina*, discovery of in Stuart Lake limestones, B.C., (76-77) p. 54.
- Fusulina cylindrica*, Fischer, found in limestones of Stuart Lake, B.C., (76-77) p. 56.
- notes on specimens from Fort St. James, Stuart Lake, B.C., (75-76) p. 97.
- Fusuline limestone of British Columbia, stratigraphical importance of, (76-77) p. 56.
- Fusus tornatus*, Gould, wood-cut of, (1863) p. 964.
- Gabarus Bay, N.S., metamorphic rocks of, (75-76) p. 379.
- note on copper-ore deposits of, (75-76) p. 415, and (76-77) p. 451.
- Carboniferous outliers of conglomerate at, (77-78) p. 23 F.
- note on iron-ore deposits of, (77-78) p. 28 F.
- GABB, MR., referred to, (76-77) p. 159.
- Gabbro, characters of, composition, (1863) p. 650.
- from Garthby Tp., west of Lake Colombe, Que., microscopic character of, (80-82) p. 12 A.

Gabbro—Cont.

of Silurian rocks of Upsalquitch River, N.B., (79-80) p. 16 D.

"Gabbro rossi," rock resembling, on Rivière des Plantes, Que., (1863) p. 255.

Gabriola Island, Nanaimo Harbour, B.C., size, rocks of, (71-72) p. 86.

prairie openings on, (71-72) p. 95.

list of fossils from, (73-74) p. 264.

new species of fossils, described, (73-74) p. 268.

Gagetown road, N.B., exposures of Huronian, north of Armstrongs Corners, (70-71) p. 66. exposures of St. John Group rocks, north of Armstrongs Corners, (70-71) p. 66.

Gagnons Beach, Tartigo River, Que., fossiliferous shales at, list of fossils, (80-82) pp. 29-30 DD.

Gairloch Mt., Middle River, N.S., analysis of micaceous iron-ore of, (79-80) p. 14 H. note on hematite of, (82-84) p. 91 H. chloritic schists in contact with conglomerates at iron mine, (82-84) p. 8 H.

Gairloch mountain road, Victoria Co., N.S., sandstone and grit exposed on, (82-84) p. 42 H.

Galant River, Inverness Co., N.S., pre-Cambrian rocks of branches of, (82-84) pp. 23-24 H. metamorphic Carboniferous rocks of, (82-84) p. 38 H.

Lower Carboniferous sandstones, limestones, etc., (82-84) p. 45 H.

note on general character of valley of, (82-84) p. 79 H.

Galant River area, of pre-Cambrian, Inverness Co., N.S., (82-84) pp. 23-24 H.

Gale Mountains, Brome, Que., note on characters of trachytes of, (1863) p. 652.

Galena, or lead ore, characters of, description, followed by localities, (1863) p. 687.

Galena, in Ontario and Quebec, localities of occurrences, (1863) p. 516.

of Arichat Harbour, N.S., referred to, (79-80) p. 123 F.

near Beamsville, Ont., Niagara Formation, (1863) p. 324.

in Cape Breton Island, N.S., notes on, (82-84) pp. 93-94 H.

from Canadian Lead Mining Co.'s claim, Lansdowne Tp., Ont., note on, (82-84) p. 9 L.

in Cape Breton Island, N.S., (76-77) p. 451.

in Eastern Townships, Que., notes on, (1863) pp. 690-691.

of Garden River, Lake Huron, (76-77) p. 211.

from Gaspé Bay, Indian Cove and Little Gaspé, Que., note on, (80-82) p. 15 DD.

in North Hastings and Peterborough Tps., Ont., (66-69) E. p. 162, F. p. 179.

in North Hastings, description of, (63-66) pp. 103-105.

from Joggin's coal mine, N.S., (76-77) p. 481.

on Lake Superior, (1863) p. 690.

Galena—Cont.

in Lake and Tudor Tps., Ont., (63-66) p. 104.

from Little Whale River, near Hudson Bay, note on specimens, (75-76) p. 324.

from Margaree and Pleasant Bay, N.S., in Carboniferous rocks of, referred to, (80-82) p. 18.

in vicinity of Ottawa, and note on localities in N. Y., (1863) p. 689.

St. Peters, Richmond Co., N.S., in limestone at, (77-78) p. 18 F.

from Rivière au Moulin, Que., in veins in Trenton, (1863) p. 161.

Salmon River, Cape Breton Co., N.S., in bituminous limestone on, (77-78) p. 24 F.

in Southern New Brunswick, occurrence of, (70-71) p. 227.

from Trusty pit, Templeton, Que., (77-78) p. 36 G.

from Victoria mine, near Sault Ste. Marie, Ont., vicinity of, (76-77) pp. 211-212.

Galena, analysis of, from Boulder Creek, Omenica, B.C., Arctic Circle and Black Warrior veins, (79-80) pp. 110-112 B.

Galena, assays for gold and silver:—

from Arctic Circle claim, Boulder Creek, Omenica, (78-79) p. 24 H.

Brown's silver mine, Gros Cap, Ont., (77-78) p. 51 G.

Cape Breton Island, N.S., (76-77) p. 482.

Cape Breton Co., N.S., between Loch Lomond and Mira Bay, (80-82) p. 13 H.

Duncan mine, vicinity of Thunder Bay, (80-82) p. 14 H.

Elm-tree River, Gloucester Co., N.B., (80-82) p. 13 H.

Fitzroy Tp., Carleton Co., Ont., (79-80) p. 19 H.

Garden River, argentiferous, (76-77) p. 480.

Kootenay Lake, B.C., obtained in 1861, (82-84) p. 38 B.

Lake Temiscaming, (77-78) p. 52 G.

Musquash Harbour, N.B., (77-78) p. 52 G.

Nigadoo Silver mine, Gloucester Co., N.B., (80-82) p. 13 H.

Ottawa River, Fitzroy Harbour, Ont., (80-82) p. 13 H.

Pie Island, Lake Superior, (80-82) p. 14 H.

Portland Tp., Ottawa Co., Que. (82-84) p. 6 MM.

Richmond Gulf, Hudson Bay, (77-78) p. 52 G.

Rocky Mountains, (80-82) p. 15 H.

Sterling mine, Cowitchew, B.C., (79-80) p. 20 H.

Victoria mine, Ont., (76-77) p. 213, and (77-78) p. 51 G.

northern part of York Co., N.B., (78-79) p. 18 H.

Galena, argentiferous, reference to localities for, (1863) pp. 738-739.

note on Elm-tree River deposits, N.B., (80-82) pp. 21-22 DD.

Galena—*Cont.*

- Nigadoo River, N.B., (79-80) p. 45 D.
 note on deposits at, (80-82) pp. 21-22 D.
 from Omenica, B.C., examination of, referred to, (76-77) p. 116.
 from Restigouche Co., N.B., (80-82) pp. 21-22 D.
 from Sault Ste. Marie, Ont., (76-77) pp. 194, 481.
- Galena veins, of North Hastings, Ont., cutting Laurentian and Silurian rocks, (66-69) E. p. 164, F. p. 181.
 in agglomerate at Cumshewa, Q.C.Is., (78-79) p. 77 B.
- Galena deposits, in Ontario and Quebec, (1863) pp. 687-691.
 of Bedford Tp., Ont., note on, (1863) 687-688.
 in Gaspé, references, description of, workings at Little Gaspé Cove, (1863) p. 691.
 in Lansdowne Tp., Ont., (1863) p. 688.
 in Ramsay Tp., Ont., work done in mining, (1863) pp. 688-689.
- Galena lodes of Eastern Ontario, geological horizon of, (74-75) p. 163.
- Galena mining, in Eastern Ontario, note on (74-75) p. 163.
- Galena Formation of Wisconsin, analysis of dolomites from, (1863) p. 623.
- Galena limestone of Manitoba, list of fossils from St. Andrews and East Selkirk, collected by R. Bell in 1880, (79-80) pp. 57-58 C.
- Galenite from Wanamakei, Hammond River, N.B., assay of, (78-79) p. 18 H.
- Galiano Island, B.C., height of escarpment, dip of rocks, (71-72) p. 87.
 rocks of, (76-77) pp. 185-186.
- Gallas Point, P.E.I., note on rocks exposed at, attitude of beds, (82-84) p. 15 E.
see also Gallows Pt.
- Gallows Point, Hillsborough Bay, P.E.I., hematite concretions in Carboniferous rocks at, (73-74) pp. 218-219.
 barytes in fossil trees at, (73-74) p. 221.
 iron-ore deposits of, reported on by A. R. C. Selwyn, (74-75) p. 8.
- Gallerucella picea*, Scudder, description of, from Tertiary of Nine Mile Creek, B.C., (77-78) p. 181 B.
- Gallup Lake, Charlotte Co., N.B., gray and white granites of, (70-71) p. 51, and (76-77) p. 328.
- Galt, Ont., exposures of upper part of Guelph Formation at, fossils found, (1863) p. 339.
 note on boulders of vicinity of, (1863) p. 895.
- Gamache Bay, Anticosti Island, Que., section of rocks and lists of fossils in, (1863) pp. 298-300.
- Gambling among Haida Indians, (78-79) p. 129 B.
- Gambling sticks as used by Haidas, figured on plate X, (78-79) B.

- Game, of the interior of British Columbia, note on, (71-72) pp. 71-72.
 found in southern part of Cape Breton Island, N.S., note one, (79-80) p. 115 F.
 in interior of Cape Breton Island, N.S., caribou and moose, (80-82) p. 7.
 secured by Haida Indians for food, note on, (78-79) p. 113 B.
 on Manitoulin Islands, Ont., (63-66) p. 170.
 in Pine River Pass, note on, (79-80) p. 45 B.
- Game and fish, at High Falls, Madawaska River, Ont., (76-77) p. 251.
 of Cape Breton and Richmond Cos., N.S., (77-78) p. 26 F.
- Gananogue Lake, Ont., copper-pyrites found on, (1863) p. 514.
- Ganges Harbour, east side Vancouver Island, B.C., rocks at, (76-77) pp. 183-184.
- Gap of the Bow River, Rocky Mountains, valley of Bow River at, (82-84) p. 29 C.
- Garden River, Ont., outcrops of copper-ore on, (1863) p. 60.
 stratified clays with nodules, (1863) p. 906.
 native antimony from, examined for silver, (73-74) p. 7.
 explorations in vicinity of Victoria mine, by R. Bell, (76-77) p. 194.
 galena and antimony near, (76-77) p. 211.
 silver-ore from, assay of, (76-77) p. 480.
- Gardens at Lesser Slave Lake, 1879, condition of, (79-80) p. 70 B.
- Gardiner mine, N.S., location, area and coal seams of, (72-73) p. 271.
 description, machinery, (72-73) pp. 272-273.
 statistics, working force, etc., (72-73) p. 290.
 thin seams of coal overlying the Gardiner seam, (74-75) p. 223.
- Gardiner seam, Lorway and Emery area, Cape Breton, N.S., thickness and extent, (72-73) p. 268.
 thickness and position at, Gardiner mine, (72-73) pp. 271-272.
 description and analysis of, at Gardiner mine, (72-73) p. 290.
 note on irregularities in former measurements of, (74-75) p. 222.
- Gardner Channel, coast of British Columbia, mica-schist of Crab Bay, (74-75) p. 79.
 ice grooves at mouth of, (74-75) p. 82.
- Gardners Creek, Bay of Fundy, N.B., Lower Carboniferous of, (72-71) pp. 209-210.
 list of plant remains determined by J. W. Dawson, (70-70) p. 210.
 faults, overturn folds, fossils, etc., (70-71) p. 211.
- Gargantua Cape, Lake Superior, red thomsonite found at, (1863) p. 841.
 veins of copper-ore at, (1863) p. 702.
 rocks of, (76-77) p. 218.
- Garnet, mineral associations, in rock masses, (1863) p. 651.
 mode of occurrence in Laurentian, (63-66) p. 211.

Garnet—Cont.

- varieties of, found in apatite-bearing rocks of Ottawa Co., Que., (77-78) p. 26 G.
 on Bourinot road, Cape Breton Co., N.S., (76-77) p. 408.
 Dennis Stream, N.B., in rocks of, (70-71) p. 56.
 French River, Ont, at mouth of, (76-77) p. 202.
 Grenville, Que., associated with magnetite, (73-74) p. 201.
 Gallup Lake, Charlotte Co., N.B., (76-77) pp. 328-329.
 Mansfield Tp., Que., in quartzite of, (76-77) p. 284.
 Moores Lake, Charlotte Co., N.B., with staurolite, (70-71) p. 239.
 Parry Sound, Ont., in vicinity of, (76-77) p. 200.
 Pic River, Ont., above Dying Portage, in gneiss, (70-71) p. 329.
 Rosetta Island, near Parry Sound, Ont., (76-77) p. 199.
 Ross Tp., Ont., in quartzose rocks of, (76-77) p. 266.
 St. Helens Lake, Portland Tp., Ottawa County, Que., yellowish green, (82-84) p. 11 J.
 Schmiedeberg, Europe, associated with magnetite, (73-74) p. 201.
 Garnet, chrome, from Orford Tp., Que., analysis of, (1863) p. 497.
 Garnet crystals, in rocks of Blue River and Garnet Creek Falls, B.C., (71-72) p. 65.
 Garnet mine in Wakefield Tp., Que., note on, (80-82) pp 12-13 GG.
 Garnet and garnetiferous rocks, note on varieties, with analyses, localities, (1863) pp 496-497.
 its use as an abrasive material, beds at St. Jerome, Bay St. Paul and Rawdon, Que., referred to, (1863) p. 817.
 of vicinity of Cape Rouge, N.S., (82-84) p. 21 H.
 in Laurentian, general note on, (1863) pp. 24, 588.
 white, reference to occurrence of, (1863) p. 608.
 white, from Orford and St. Francis, Que., analyses of, (1863) p. 496.
 Garnetiferous gneiss, with phosphate, in Bedford Tp., Ont., (72-73) p. 172.
 of Muskoka, Ont., (76-77) pp. 269-271.
 of North Burgess, Ont., character and thickness, (72-73) p. 168.
 Garnetiferous granite at Power Brook, Ingonish, N.S., (82-84) p. 16 H.
 of Pickanock, Que., (76-77) p. 286.
 Garnetiferous schists of coast near Skeena River, B.C., (79-80) p. 100 B.
 Garnet Creek Falls, B.C. reference to photographs of, garnets and tourmaline, (71-72) p. 65.
 Garnetts Settlement, Simonds Tp., N.B., rocks exposed at, (77-78) p. 10 DD.

- Garret mine, Lièvre River, Que., visited by H. G. Vennor, (73-74) p. 144.
 Garrick Tp., Ont., escarpments of Corniferous limestone in, (1863) p. 371.
 Garry, N.S., arsenical pyrites at source of McLean Brook, (76-77) p. 453.
 Garry Brook, Middle River, N.S., gneissic rocks of, (82-84) p. 31 H.
 Garthby Tp., Que., copper-ore associated with serpentine in, (1863) p. 254.
 note on copper-mine in, (1863) p. 733.
 reference to deposit of pyrites in, (1863) p. 748.
 deposits of chrome ore in band of serpentine, (1863) p. 749.
 Silurian slates, roofing slates, (63-66) p. 45.
 copper localities in, (63-66) p. 318.
 gabbro from west of Lake Colombe, microscopic structure of, (80-82) p. 12 A.
 note on gold mine in, (80-82) p. 5 GG.
 Garthforth Mountain, Carleton Co., N.B., diorite band terminating in, (66-69) E. p. 200, F. p. 222.
 Gas furnaces of Siemens, Lundin and Bötius, (66-69) E. pp. 296-298, F. pp. 326-329.
 Gas returns, from Bridgeport coal, N.S., (72-73) p. 252.
 from Cowrie coal, N.S., New York Gas and Light Co., (72-73) p. 283.
 from coal of Sydney Main seam, N.S., (72-73) p. 244.
 Gas spring in Athabasca River, at Little Buffalo River, (82-84) p. 13 CC.
 Gas trials of Pictou coals, (66-69) E. pp. 432-437, F. pp. 482-489.
 Gas-well at Three Rivers, Que., examination of, situation of, (82-84) p. 13.
 Gaspé Basin, Que., thickness of Gaspé sandstone exposed at, (1863) p. 396.
 fossiliferous beds of Gaspé sandstone on north side of, (1863) p. 398.
 petroleum, springs of, new localities mentioned, (1863) p. 521.
 petroleum springs near, note on, (1863) p. 789.
 fossils from vicinity of, representing lower part of Devonian at, (80-82) p. 14 DD.
 feasible railway route to, (82-84) p. 10 E.
 Gaspé Bay, Que., thickness of Gaspé sandstone exposed on, (1863) p. 396.
 note on greenstone dykes of, (1863) p. 402.
 rocks of Point St. Peter from Yellow Head to Mal Bay, (1863) p. 437.
 copper ores of Mount Serpentine referred to, (1863) p. 734.
 additional localities for petroleum on, (1863) pp. 789, 792.
 sandstones north of Serpentine Mountain, brought up by syncline, (1863) p. 882.
 ancient sea-beach and terrace on, (1863) p. 922.
 reference to description of exposures of Gaspé sandstones of, (80-82) pp. 5-6 DD.

Gaspé Bay, Que.—*Cont.*

- list of fossil plants found in sandstones of middle part of Devonian at, (80-82) pp. 6-7 DD.
- reference to description of dykes in rocks of, (80-82) p. 31 DD.
- Gaspé limestones, description of, with sections, (1863) pp. 390-394.
- contorted strata in, wood-cuts showing corrugations limestone, (1863) p. 392.
- distribution of, (1863) p. 406.
- thickness of, measured on Dartmouth River, above Mount Serpentine, (1863) p. 881.
- Gaspé limestone series, estimated thickness and details of exposures of, with fossils identified in upper members, (80-82) pp. 7-15 DD.
- probably of Oriskany age, (82-84) p. 23 E.
- Gaspé pebbles, reference to occurrence of, (1863) p. 500.
- Gaspé Peninsula, Que., surveys made in by Geological Survey previous to 1863, (1863) p. 10 Atlas.
- description of Shickshock Mountains, in, etc., (1863) p. 3.
- great fault of St. Lawrence cutting north part of, (1863) p. 234.
- Hudson River rocks of coast west of Cape Rosier, (1863) p. 269.
- Anticosti Group in, note on occurrence of, south of Shickshock Mountains, (1863) p. 309.
- Anticosti Group in interior of, predicted, (1863) p. 444.
- description of Gaspé limestones in, with sections, (1863) pp. 391-394.
- intrusive rocks of, reference to descriptions of, (1863) p. 670.
- note on galena deposits worked in, (1863) p. 691.
- note on petroleum springs of, (1863) pp. 788-792.
- analysis of fossil resin from Shaw's mill, (1863) p. 791.
- superficial deposits of, (1863) p. 922.
- reference to report on petroleum of, (63-66) p. 234.
- note on explorations for petroleum in, (80-82) pp. 14-15 DD.
- summary of explorations by R. W. Ells in, 1882, (80-82) p. 19.
- botanical exploration of, by J. Macoun, summary of, (80-82) p. 25.
- pre-Cambrian rocks of Cape Macquereau, (80-82) p. 17 D.
- report on geology of, by R. W. Ells for 1882, (80-82) pp. 1-32 D.
- note on Cambro-Silurian rocks of Grand Pabos district at, (80-82) pp. 15-16 D.
- report on Cambro-Silurian rocks in, by R. W. Ells, (80-82) pp. 16-31 DD.
- the Quebec Group in, reference to former reports and papers on, (80-82) p. 16 DD.
- summary of explorations of streams in 1883, (82-84) pp. 8-10.
- report on surveys made in 1883 and the geology of, (82-84) pp. 5-34 E.

Gaspé Peninsula, Que.—*Cont.*

- previous explorations made by Logan and Murray, reference to, (82-84) p. 6 E.
- note on good agricultural areas in interior of, (82-84) p. 10 E.
- geology of interior of, (82-84) pp. 19-34 E.
- the Devonian rocks of, description of exposures, lists of fossils, (82-84) pp. 19-25 E.
- the Silurian rocks of, distribution in interior of, (82-84) pp. 25-30 EE.
- report on surveys and explorations of interior by A. P. Low during 1883, (82-84) F.
- list of fossils collected from Devonian and Silurian rocks of, (82-84) p. 24 E.
- the Silurian rocks of, character and description of exposures, (82-84) pp. 12-14 F.
- maps of part of, issued in 1884, head-waters of Bonaventure, Lake Metapedia, Douglastown, Fox River, Cape Marsouin and St. Anne des Monts sheets.
- see also* Gaspé Co., *Part I*, p. 8.
- Gaspé sandstones, general description of, with sections and lists of fossils, wood-cuts of typical fossil plants in, (1863) pp. 394-404.
- parts of correlated with Oriskany and the New York series up to Catskill Group, (1863) pp. 403-404.
- correlation with New York series, (1863) p. 404.
- thickness of, probabilities for oil in, (63-66) p. 260.
- middle portion of Devonian, reference to descriptions of exposures on Gaspé Bay, (80-82) pp. 5-6 DD.
- list of plant remains found in, at Gaspé Bay, references for notes on series, (80-82) pp. 6-7 DD.
- probably of Hamilton age, (82-84) p. 23 E.
- Gaspé Seignory, Que., copper localities in, (63-66) p. 321.
- Gaspé Series, description of Gaspé limestone and Gaspé sandstone, (1863) pp. 390-404.
- fossil conifer found near Douglastown, Gaspé, Que., (1863) p. 399.
- mineral veins in, at Little Gaspé Cove and Indian Cove, Que., (1863) p. 400.
- dykes in, at Cape Rosier Bay, Gaspé Cove, Cape Oiseau, (1863) pp. 401-402.
- distribution of, (1863) pp. 406-453.
- mineral veins in slates and quartzites of Chaudière and St. Francis Rivers, Que., (1863) p. 437.
- gold in quartz veins on Chaudière and St. Francis Rivers, Que., (1863) p. 437.
- discordances at top and base of, with Quebec Group and Bonaventure Formation, seen near Port Daniel, (1863) p. 442.
- additional information on distribution between Magdalen River and Douglastown River, (1863) p. 880.
- and Bonaventure Formation, section exposed from Gaspé Bay to Bay of Chaleurs, (1863) pp. 437-453.
- sandstone and part of limestone series classed with Devonian, (80-82) p. 3 DD.
- Gaspereaux Station, N.B., minerals of vicinity, (76-77) p. 329.

- Gaspereaux Lake, N.B., granite range south of, Douglas Valley, (70-71) p. 183.
- Gaspereaux River, Salmon River, N.B., gray sandstones on, (72-73) p. 205.
- Gaspereaux River, Cape Breton, N.S., Millstone grit of, (76-77) p. 447.
molybdenite of, (76-77) p. 452.
coal on, (76-77) p. 453.
- Gaspereaux River Road, Cape Breton, N.S., mineral spring on, (76-77) p. 455.
- Gasteropoda, of the Birdseye and Black River Formations, wood-cuts of typical species, (1863) pp. 144-146.
of the Calciferous Formation, wood-cuts of *Ophileta compacta* and *Maclurea matutina*, (1863) p. 115.
wood-cuts of, *Pleurotomaria*, (1863) p. 117.
figures of *Pleurotomaria*, *Eunema* and *Murchisona Anna*, (1863) p. 119.
wood-cuts of *Murchisonia arenaria* and *Subulites calcifera*, (1863) p. 120.
of the Chazy Formation, wood-cuts of *Pleurotomaria calyx* and *P. doens*, (1863) p. 132.
of the Hudson River Formation, wood-cuts of species, (1863) p. 217.
of Phillipsburgh section, Quebec Group, (1863) p. 276.
of the Quebec Group, wood-cuts of *Ecculimphalus*, (1863) p. 232.
of the Trenton Formation, wood-cuts of species, (1863) pp. 178-184.
- Gatcho, or Ilgatcheo Lake, B.C., description of country near, (76-77) p. 27.
- Gatcho stream, B.C., general description, (76-77) p. 39.
- Gate Lake, Wentworth Tp., Que., magnetite deposit near, (1863) p. 673.
- Gates Ajar, gold claim, C.P.R., west of Lake Superior, assay of ore, (82-84) p. 8 MM.
- Gatineau District, Que., iron ore in, (76-77) p. 298.
- Gatineau River, Que., apatite recorded at Blaisdell's mills on, (1863) p. 461.
from Desert northward, Laurentian rocks of, (70-71) pp. 288-289.
soil, cultivation, forests, (70-71) p. 298.
character of upper part of, (70-71) pp. 298-299.
limestone on, (76-77) p. 294.
apatite rocks on, (76-77) p. 295.
- Gatling gold mine, Marmora, Ont., character of vein, ore mined, yield of gold, improvements on, (71-72) pp. 138-139.
assays of gold ore from, (71-72) p. 141.
summary of assays, average yield, (73-74) p. 7.
- Gaudins Lake, Ont., rocks of referred to, (76-77) p. 208.
- GEFFCKEN, HERR, list of Lepidoptera determined by, from Nelson and Churchill rivers, (78-79) pp. 63-64 C.
- Gemmill's mine at, Wakefield Tp., Que., note on workings, (82-84) p. 19 L.
- Gems found in Canada, short note on, (1863) p. 832.
- General glaciation of southern part of British Columbia, (77-78) pp. 136-138 B.
- General Mining Association area, N.S., attitude of beds, provisional theory of structure, (66-69) E. p. 83, F. p. 93.
railway, wharf and workshops, description of, Pictou, N.S., (66-69) E. 89, F. 100.
land under lease in Cape Breton, N.S., by, (72-73) p. 242.
old pit, sections at, (73-74) p. 158.
pits in Sydney mining district, N.S., sections of Indian Cove or No. 3 seam, (74-75) pp. 236-237.
- Genesee slates, characters of, in New York, (1863) p. 381.
- Genesee shale recognized in Canada, (63-66) p. 242.
- Genoese forge, improved Catalan forge, description of, (66-69) E. p. 272, F. p. 300.
- GENTH, DR. F. A., quoted on gold in diorite, (70-71) p. 255.
- Geographical features of north shore of St. Lawrence, (66-69) E. p. 308-311, F. p. 341-344.
- Geography, physical, of Canada, notes on mountain ranges, river valleys, lake basins, etc., (1863) pp. 1-18.
- Geological age of gold-bearing rocks of Nova Scotia, (70-71) p. 269.
- Geological description of Rivière la Biche, Athabasca River and Clearwater River, (82-84) pp. 7-30 C.C.
- Geological features of Southern New Brunswick, sketch of, (70-71) pp. 18-28.
- Geological maps of Canada, published in 1863, with note on geological work in other provinces included, (1863) Atlas.
of New Brunswick, by Dr. Gesner, 1841, published in 1850, (70-71) p. 21.
- Geological nomenclature and the colouring and notation of maps by A. R. C. Selwyn, (80-82) pp. 47-51.
- Geological sections, coloured, for parts of Southern New Brunswick, with maps accompanying, (78-79) D.
- Geological structure, of British Columbia, note on, by A. R. C. Selwyn, (71-72) pp. 51-72.
of Eastern Ontario, general notes, (76-77) pp. 245-277.
Madoc, Ont., to Desert, Que., (76-77) p. 245.
- Geological Survey, short sketch of work of officers and explorers from 1843 to 1862, by W. E. Logan, (1863) pp. iii-xvi.
extended to other provinces, (68-69) p. 3 Summ.
compared with that of England and United States, number of explorers and annual appropriation, (74-75) pp. 4-5.

Geological Survey—*Cont.*

- notes by A. R. C. Selwyn on, for report of special committee, (82-84) pp. 25-28.
- George Brook, Cape Breton, N.S., analysis of coal from limestone near Rocky Brook, (75-76) p. 406.
- George Creek, Richmond Co., N.S., character of country near, loose Carboniferous rocks, (79-80) p. 65 F.
- George Heenan location, Hay Island, Big Stone Bay, Lake of the Woods, Ont., description of, (82-84) p. 8 K.
- George Island, West Bay, N.S., deposits of gypsum exposed on, (79-80) p. 102 F.
- George Lyon road, N.B., Upper Silurian rocks along, (70-71) p. 168.
- George McKay seam, Marsh Colliery, Pictou, N.S., (66-69) E. p. 17, F. p. 19.
trial pits, from outcrop to McGregor's fault, (66-69) E. p. 26, F. p. 29.
analysis of coal of, (66-69) E. p. 390, F. p. 433.
- George River, Cape Breton, N.S., St. Andrews Channel, crystalline limestones of, (75-76) pp. 381-388.
exposures of Millstone Grit on, small seams of coal, (75-76) p. 411.
width of syenite belt on, (75-76) p. 377.
- George River lime works, N.S., note on, (75-76) p. 416.
- George River limestone of Nova Scotia, distribution and characters of, (76-77) p. 426.
contact with syenite, McPherson's Brook, Inverness Co., N.S., (79-80) p. 14 F.
of Inverness and Guysborough Cos., N.S., (79-80) pp. 17-32 F.
description of Whycocomagh area, N.S., (82-84) pp. 33-34 H.
- George River quarries, St. Andrew Channel, N.S., thickness of Carboniferous limestone at, (75-76) p. 406.
- Georges Island, Shibaonaning, Ont., rocks and minerals of, (76-77) p. 208.
- Georges Island, Lake Winnipeg. Man., northern limit of ground maple, (78-79) p. 33 C.
- Georgetown, Esquesing Tp., Ont., building stone obtained from gray-band sandstone of, (1863) p. 316.
reference to quarry in gray-band sandstone of, (1863) p. 815.
- Georgian Bay, the Trenton Group as exposed on, (1863) p. 193.
description of Niagara escarpment on west side of, (1863) pp. 331-332.
work done by R. Bell on, in 1876, (76-77) p. 193.
geology of north-east coast of, (76-77) pp. 195-202.
general outline of coast of, (76-77) p. 196.
- German bloomery furnace, description of as used in U.S.A., (66-69) E. p. 273, F. p. 301.
- Germansen Creek, B.C., gold workings on, (76-77) p. 140.
- Gervais Rapids, Saguenay River, Que., general surface of post-Tertiary deposits, regular to Lake St. John, (82-84) p. 17 D.
- GESNER, Dr. A., first reports on geology of New Brunswick, sketch of each of five reports, (70-71) p. 18.
results of geological researches in New Brunswick, (70-71) p. 19.
map of New Brunswick of 1841, (70-71) p. 21.
first geological description of Grand Manan Island, (70-71) p. 100.
first published report on Carboniferous of New Brunswick, referred to, (72-73) p. 180.
synopsis of record of first boring for coal in 1837, in New Brunswick, (72-73) p. 225.
record of boring at Salmon River in 1837, (72-73) p. 230.
reference to notice of magnetic iron-ore at Bull Moose Hill, N.B., (73-74) p. 198.
- Ghost or Deadman River, Bow River, Alta., note on, (82-84) p. 30 C.
- Ghost River, near Dunvegan, size of, (79-80) p. 50 B.
- Ghostly apparitions among Haida Indians, (78-79) p. 124 B.
- Giant's graves, gravel mounds in Didequash Valley, N.B., (77-78) p. 17 EE.
- Giants Range, Gun-flint Lake, Ont., granite of, (72-73) p. 93.
- Giants Tomb, Georgian Bay, Ont., base of Trenton resting on gneiss at, (1863) p. 193.
boulders of labradorite rocks on, (1863) p. 894.
- Giants Tomb Island, Ont., gneiss veins of, (76-77) p. 196.
- GIBBS, GEO., description of west fork of Similkameen River, B.C., quoted, (77-78) p. 50 B.
- Gibraltar rock, Manitoulin Island, Ont., pot-holes on, (63-66) p. 177.
- GIBSON, J., report on salt in Canada referred to, (76-77) p. 223.
- Gieseckite, analysis of, (1863) p. 482.
occurrence in New York, (63-66) p. 208.
- Gigantic beaver, Indian traditions of, on Queen Charlotte Islands and Dundas Island, B.C., (78-79) p. 154 B.
- Gilbert River, Que., speedy exhaustion of gold on, (63-66) pp. 50-57.
alluvial gold found just below auriferous quartz veins on, (63-66) p. 52.
alluvial gold mining on, (63-66) pp. 56-60.
sections of the gravels on, (63-66) p. 57.
thin layer of gravel on north-east branch of, (63-66) p. 57.
subterranean mining in banks of, (63-66) p. 59.
upper limit of rich alluvions on, (63-66) pp. 59-61.
trial pits made on, by A. Michel, (63-66) p. 60.
irregularity in distribution of gold on, (63-66) p. 61.
largest nuggets found, source of gold on, (63-66) p. 61.

- Gilbert River, Que.—*Cont.*
sterile clays of, (63-66) p. 61.
examination of sterile clays of, (63-66) p. 87.
report of Mr. Lockwood on alluvial work-
ings on, (70-71) pp. 275-276.
assay of quartz for gold and silver, (78-79)
p. 18 H.
- Gillams Island, Nelson River, fossil from, (78-
79) p. 51 C.
- Gillanders Mountain road, Inverness Co., N.S.,
pre-Cambrian rocks of, (82-84) p. 11 H.
- Gillen mine, Marmora, Ont., description of de-
posit, history of workings of, (71-72) p.
136.
assay for gold by Prof. Chapman, (71-72) p.
137.
assay of gold ore from, (71-72) p. 141.
- Gillen vein traced by Vennor through lot 14,
range X., Madoc, Ont., (71-72) p. 138.
- Gillies Bay, Texada Island, B.C., exposures in
(76-77) p. 169.
- Gillies Lake road, Cape Breton, N.S., copper
mine at, note on character of deposit, (79-
80) p. 123 F.
- GILLIS, DONALD, coal on farm of, in Cape Bre-
ton N.S., (76-77) p. 441.
- GILLIS, SIMON, referred to, (76-77) p. 402.
- Gillis Brook, N.S., Silurian rocks of, (76-77) p.
436.
Carboniferous rocks of, (76-77) p. 441.
- Gillis' farm, McAdam Lake, N.S., analyses of
coal from, (76-77) p. 454.
- Gillis Lake, N.S., Lower Silurian argillites and
sandstones of, (75-76) p. 393.
Lower Silurian rocks of, (76-77) p. 435.
Carboniferous rocks of, (76-77) p. 440.
- Gillis' mill, N.S., glacial striae at, (76-77) p. 449.
- Gillis' property, St. Angelique, Vaudreuil, Que.,
analysis of bog iron-ore, (73-74) p. 236.
- Gillis road, N.S., Laurentian rocks of, (76-77)
p. 414.
- GIROUX, N. J., work by as assistant to Dr. Ells,
1883, (82-84) p. 5 E.
list of fossils collected at Grand Grève,
Gaspé by, (82-84) p. 24 E.
- GISBORNE, F. N., referred to, (76-77) pp. 402-452.
donation to Museum, (82-84) p. 19.
- GISBORNE, H., work by as assistant to H.
Fletcher, (79-80) p. 2 F.
- Giscomb Portage, B.C., general description of,
(75-76) p. 66.
- Glace Bay basin, N.S., The International Mining
Co.'s areas, (72-73) p. 256.
compared with Cow Bay basin, sections of
strata and discussion of coal seams, (74-
75) pp. 212-223.
regularity of beds in, thickening eastwards,
(74-75) p. 213.
section from Table Head to Bridgeport, (74-
75) pp. 218-220.
section at Lorway, west pit, (74-75) p. 222.
- Glace Bay and Sydney Harbour coal basins,
N.S., similarity of, (74-75) p. 230.
- Glace Bay mines, N.S., diagrammatic section of
measures at, (74-75) facing p. 266.
- Glacial action, evidence of, on coast of British
Columbia, (71-72) p. 53.
- Glacial deposits on Belly River, Alta., diagram-
matic section showing upper and lower
boulder-clays, (82-84) facing p. 144 C.
- Glacial drift, general description of and local ex-
amples in Ontario and Quebec, (1863) pp.
893-896.
- Glacial erosion in James Bay basin, (75-76) p.
339.
- Glacial geology of country south of Qu'Appelle
River, N.W.T., (73-74) pp. 85-87.
- Glacial geology and superficial deposits of
Southern British Columbia, (77-78) pp.
133-166 B.
- Glacial grooves, list of in Ontario and Quebec,
(1863) pp. 890-892.
see also Glacial striae.
- Glacial origin of lakes, general note on, (1863)
p. 889.
- Glacial period in British Columbia, note on con-
ditions during, (78-79) p. 99 B.
- Glacial phenomena on route to Moose Factory,
via Missinaibi River, Ont., (77-78) pp. 6-7
C.
- Glacial striae, general note on, examples of,
(1863) p. 888.
see also Ice grooves and Lists of glacial striae.
- Glacial striae in British Columbia:—
on Beacon Hill, Victoria, (71-72) p. 94.
Babine Lake, on hills north of, (79-80) p. 138
B.
Cherry Creek, on hills on southern trail to,
(77-78) p. 139 B.
Columbia River, in valley of, (82-84) p. 35 B.
on coast of, (74-75) pp. 81-82.
at Port Essington, down valley of Skeena,
(79-80) p. 136 B.
in Nicola Valley, (77-78) p. 139 B.
in Similkameen Valley, (77-78) p. 139 B.
of Tatlayoco Lake, Chilcotin Valley, Nazco
Valley and Tsa-whuz Mt., (75-76) pp.
261-262.
on Vancouver Island, (71-72) p. 53.
near Victoria, (72-73) p. 65.
- Glacial striae in Cape Breton Island, N.S., (76-
77) p. 449.
list of erratics, (74-75) p. 265.
at Cape Gabarus, (77-78) p. 27 F.
on Frambois road, Richmond Co., (77-78)
p. 27 F.
in Inverness Co., (82-84) p. 77 H.
on Mabou River, (82-84) p. 42 H.
list of, in Richmond, Guysborough and In-
verness Cos., (79-80) p. 114 F.
in Sydney District, N.S., (74-75) p. 265.
- Glacial striae in Hudson Bay and Strait:—
on East Main Coast, list of, (77-78) pp. 30-31
C.

Glacial striæ—Cont.

- near Ashe Inlet, (82-84) p. 22 DD.
- on Marble Island, (82-84) p. 35 DD.
- at Port de Boucherville, Nottingham Island, (82-84) p. 29 DD.
- at Stuparts Bay, Prince of Wales Sound, (82-84) pp. 26-27 DD.

Glacial striæ of Labrador:—

- near Fords Harbour, (82-84) p. 11 DD.

Glacial striæ in Manitoba North-west Territories and Keewatin:—

- on east side of Lake Winnipeg, average direction, (74-75) p. 43.
- in valley of English and Winnipeg rivers, (74-75) pp. 44-45.
- on boat-route to York Factory, list of, (77-78) p. 27 CC.
- list of on east shore of Lake Winnipeg, (77-78) p. 27 CC.
- on Nelson River and boat-route, character of, intersecting series, (77-78) p. 26 CC.
- list of on Nelson River, (77-78) p. 28 CC, and (78-79) p. 39 C.
- on Great Churchill River, list of, (78-79) p. 39 C.
- list of, on Little Churchill River, (78-79) p. 38 C.
- of Gods and Island lakes, (78-79) pp. 40-41 C.
- on Grass River, Nelson Valley, list, (78-79) p. 39 C.
- on Sipi-wesk Lake, list of, (78-79) p. 40 C.
- of Cross Lake, Nelson River, (79-80) p. 6 C.
- on Molsons Lake, (79-80) p. 7 C.
- of Athabasca Lake and river, at Mountain Rapid and at Fort Chipewyan, (82-84) p. 28 CC.

Glacial striæ in New Brunswick:—

- southern part of, list of occurrences, (77-78) pp. 5-9 EE.
- north-eastern part of, general course, (79-80) p. 43 D.
- at Weldford Station, Kent Co., (80-82) p. 20 D.
- southern part of Carleton and York Cos., list of, (82-84) p. 8 GG.

Glacial striæ in Ontario:—

- list of, (1863) pp. 890-892.
- in Madoc Tp., (63-66) p. 102.
- of Thunder Bay and Nipigon districts, (66-69) E. p. 351, F. p. 388.
- north of Lake Superior, on Pic River and Long Lake, etc., (70-71) p. 349.
- on Albany River, (71-72) p. 110.
- on route from Nipigon to Albany River, Ombabika route, (71-72) p. 109.
- of Wabinoash River, Ont., (71-72) p. 106.
- west of Lake Superior, average course of, (72-73) p. 111.
- general course north-west of Lake Superior, (73-74) p. 5.
- on Michipicoten River, (75-76) p. 338.
- on Missinaibi River, (75-76) p. 338.
- on islands, vicinity of Pointe aux Mines, Lake Superior, (76-77) p. 214.
- of vicinity of Partridge Bay, Georgian Bay, (76-77) p. 197.

Glacial striæ in Quebec.—

- list of (1863) pp. 890-892.
- on north-east side Montreal Mountain, Que., (1863) p. 918.
- not found on Magdalen Islands, (79-80) p. 9 G.
- in Saguenay region, note on, (82-84) p. 7 D.
- Glaciation of British Columbia, superficial deposits of central part of, (75-76) pp. 261-265.
- theories accounting for facts, (77-78) pp. 151-153 B.
- resumé of facts previously published regarding (77-78) pp. 133-135 B.
- southern part of, general glaciation, local glaciation, (77-78) pp. 136-139 B.
- superficial deposits of, (77-78) pp. 139-166 B.
- striation on rocks west of Okanagan Lake, (77-78) p. 44 B.
- nature of, (77-78) p. 135 B.
- of west coast of, general remarks and conclusions, (78-79) pp. 98-101 B.
- of coast archipelago of, (78-79) pp. 97-98 B.
- north end Graham Island, Q.C.Is., north-to-south, (78-79) p. 93 B.
- and superficial deposits of Queen Charlotte Islands, (78-79) pp. 89-96 B.
- possible sequence of events, north-to-south movement, no ocean currents from eastward, (79-80) p. 141 B.
- superficial deposits of northern part of, (79-80) pp. 136-142 B.
- in Babine Mountains, (79-80) p. 137 B.
- Glaciation of Great Plains, note on mode of, (82-84) p. 149 C.
- Glaciation and superficial deposits of Southern Alberta, note on previous papers and reports on, (82-84) pp. 139-152 C.
- Glaciation around Hudson Bay, general remarks on, (82-84) pp. 36-37 DD.
- Glaciation of Western New Brunswick, two periods, (82-84) p. 9 GG.
- Glacier, small, in mountains near Mad River, B.C., (71-72) p. 29.
- Glaciers of West Coast, general conclusions on, (78-79) p. 99 B.
- Queen Charlotte Sound, B.C., extent of, (78-79) p. 95 B.
- seen from Skeena River, B.C., in mountains, note on, (79-80) p. 14 B.
- Glasgow Brook, Aspy Bay, N.S., gneissic rocks of, (82-84) p. 19 H.
- Glasgow Point, Madame Is., N.S., Devonian sandstones, (79-80) p. 36 F.
- Glasgow and Cape Breton railway, N.S., practical trial of Reserve mine coal, (72-73) pp. 270-271.
- works started on Emery mine, (73-74) p. 187.
- Glass-making, sandstone suitable for, in Chateaugay Co., Que., (1863) p. 89.
- stone for, in Williamstown, Que., noted, (1863) p. 801.
- Glassville, N.B., hematite localities at, (74-75) p. 102.

- Glauconite, or greensand, general description of, with analyses, localities of occurrences, (1863) pp. 486-488.
analysis of, note by T. Sterry Hunt on composition of, (63-66) p. 231.
- Glauconite beds in Lévis Formation on Island of Orleans, Que., (1863) p. 227.
- Glauconite shales in Lauzon division, Quebec Group, (63-66) p. 32.
Margaret Island, St. Lawrence River, (66-69) E. p. 131, F. p. 145.
- Glen Ainslie, Inverness Co., N.S., Carboniferous sandstone of, (82-84) p. 43 H.
- Glen Morris, Ont., exposures of Onondaga Formation near, (1863) p. 351.
- Glendale, N.S., analysis of graphitic shale from, (78-79) p. 2 H.
syenite of hills west of, plumbago in syenite, (79-80) p. 13 F.
reported gold-bearing rocks at, (79-80) p. 123 F.
note on crystalline limestone of McPherson Brook, (79-80) pp. 25-26 F.
fossils in limestone at, (79-80) p. 98 F.
Carboniferous limestone exposed at, (79-80) p. 100 F.
graphite of, referred to, (79-80) p. 125 F.
- Glendale to Big Brook, Inverness Co., N.S., section of Carboniferous rocks, (79-80) pp. 97-99 F.
- Glendale Brook, Inverness Co., N.S., pre-Cambrian limestones and felsites of, (79-80) p. 26 F.
- Glen Gower mine, Bedford Tp., Ont., description of, (82-84) pp. 10-11 L.
- Glendyer Brook, Mabou River, N.S., gypsum beds and sandstones of, (82-84) p. 49 H.
stream sinking and reappearing at, (82-84) p. 79 H.
- Glenelg road, Charlotte Co., N.B., syenites and felsites overlying older rocks on, (70-71) p. 187.
- Glengarry road, N.S., Millstone Grit on, (76-77) p. 447.
- Glenlevit settlement, mouth of Restigouche River, N.B., Silurian rocks of, (79-80) p. 21 D.
- Glenmore, Inverness, N.S., pre-Cambrian rocks near, (82-84) p. 11 H.
- Glenmore Brook, Inverness Co., N.S., inlier of syenite on, (82-84) p. 11 H.
- Globular structure in felsite of Blue Mountain, Cape Breton Island, N.S., (77-78) p. 5 F.
- Gloucester Co., N.B., report on geology of part of, by R. W. Ellis, (79-80) pp. 1-47 D.
map of part of, scale 4 m. = 1 in., see Bathurst and Shippegan Sheets No. 3 S.E. and 6 S.W., with Report, (80-82) D.
- Gloucester Lake, Albany River, length of, (71-72) p. 109.
- Gloucester Tp., Ont., fault bringing Calciferous against Utica in, (1863) p. 116.
distribution of Calciferous in, (1863) p. 118.
Trenton limestone in, (1863) p. 168.
Borthwick's spring, character of water of, (1863) p. 537.
analysis of bituminous Utica shale from, (1863) p. 622.
peat deposits in, noted, (1863) p. 780.
clay deposits of Greens Creek, (1863) p. 916.
- Gnarled Islands, near Dundas Island, B.C., glaciation of, (78-79) p. 97 B.
assay of quartz from, (78-79) p. 24 H.
- Gneiss, for building, vicinity of Quebec and at Bay St. Paul, (1863) p. 812.
of Laurentian system, general description, (1863) p. 587.
in Palæozoic rocks of eastern area, St. Joseph and Sutton Mountain, Que., (1863) p. 600.
in Elzevir Tp., Hastings, Ont., (63-66) p. 92.
on Lake Superior, strike of, (63-66) p. 120.
of Lake Nipigon, west shore, from Wabinoosh Bay, (66-69) E. p. 347, F. p. 384.
in valley of Nipigon River, (66-69) E. p. 339, F. p. 374.
thick volume of beneath crystalline limestones, (76-77) p. 264.
great areas of without limestone, (76-77) p. 281.
on Agiwa River, Lake Superior, (76-77) p. 217.
Bennetts Lake, Ont., thin bedded, (76-77) p. 263.
of Blythfield Tp., Ont., (76-77) p. 249.
between Bonnechere and Madawaska rivers, Ont., great area of, (76-77) p. 290.
of Byng Inlet, Georgian Bay, Ont., (76-77) p. 201.
Canterbury parish, N.B., in Cambro-Silurian, (82-84) p. 13 G.
of Cap Choyé, Lake Superior, (76-77) p. 218.
of Cross Lake, Nelson River, strike of, (79-80) p. 6 C.
in Cape Breton Island, N.S., (76-77) p. 405.
on Coulange River, Que., (76-77) p. 284.
of East Main coast, Hudson Bay, average strike of, (77-78) pp. 8, 9, 18 C.
of Franklin Inlet, Georgian Bay, Ont., (76-77) p. 201.
French River, Ont., at mouth of, (76-77) p. 202.
French River, Ont., schistose, (76-77) p. 202.
Gatineau River, Que., barren area of, (76-77) p. 294.
in Georgian Bay, north-east coast, (76-77) pp. 195, 200, 212, 218.
of the district from Gods and Island Lakes, with table of strikes observed, (78-79) pp. 33-35 C.
in Hagerman Tp., Ont., (76-77) p. 204.
from island in Lac Noir, Coleraine Tp., Que., microscopic structure of, (80-82) p. 19 A.

Gneiss—*Cont.*

- Lamirondière Bay, Ont., granitoid of, (76-77) p. 209.
 in Lavant Tp., Ont., mountains of, (76-77) p. 249.
 opposite Leach Island, Lake Superior, hornblende, (76-77) p. 218.
 opposite Leach Island, Lake Superior, micaceous, (76-77) p. 218.
 at Pointe aux Mines and Goulais Falls, (63-66) p. 116.
 on east shore of Lake Winnipeg, strike of, (77-78) pp. 23-24 CC.
 on route from Lake Winnipeg to Hudson Bay, strike and dip of, (77-78) p. 9 CC.
 in Matchedach Bay, Georgian Bay, Ont., (76-77) p. 196.
 on Meganatawan River, Ont., (76-77) p. 201.
 on Muskoka River, Ont., garnetiferous, (76-77) p. 269.
 of Molsons Lake, Nelson River, strike of, (79-80) p. 7 C.
 on Nelson River, strike of, (77-78) pp. 16-17 CC.
 on Ottawa River, along north shore, (76-77) p. 277.
 on Ottawa River, with pot-holes, (76-77) p. 278.
 at Parry Sound, Ont., (76-77) pp. 199-200.
 of Partridge Bay, Georgian Bay, Ont., (76-77) pp. 197-198.
 of Petewahweh River, Ont., without limestones on, (76-77) p. 265.
 on Pine River, Nelson River valley, (79-80) p. 9 C.
 of Pointe aux Mines, Lake Superior, (76-77) p. 214.
 Roberts Bay, Ont., granular, (76-77) p. 207.
 Roberts Bay, Ont., silicious, (76-77) p. 207.
 of Split Lake, (78-79) p. 13 C.
 of Trembling Mountain, Que., (76-77) p. 268.
- Gneiss boulders, west bank of Assiniboine River, Man., (74-75) p. 29.
 on Ottawa River, (76-77) p. 278.
- Gneisses, of Ottawa County, Que., note on, (77-78) p. 3 G.
 Lower Skeena River, B.C., (79-80) p. 101 B.
 of country west of Lake Superior, reference to notes of Bigsby and Owen on, (1863) p. 65.
 of central granitic area, York and Carleton counties, N.B., (70-71) p. 246.
- Gneiss hills, of Bonnechere Valley, Ont., (76-77) p. 259.
- Gneiss islands, Grand Bay, Lake Nipigon, Ont., (66-69) E. p. 346, F. p. 383.
 boulder of limestone on, (66-69) E. p. 353, F. p. 390.
- Gneiss mountains, Canonto, Ont., (76-77) p. 251.
- Gneiss pebbles in syenite, at Hampstead, Queens Co., N.B., (70-71) p. 33.
- Gneiss series of North Addington, Ont., distribution of, (72-73) p. 144.
 varieties of, (72-73) p. 143.
- Gneiss veins, of Giant's Tomb, Georgian Bay, Ont., (76-77) p. 196.
 of vicinity of Moose Deer Point, (76-77) p. 199.
- Gneiss and crystalline limestone group of Lanark, Ont., group V, (74-75) pp. 151-158.
- Gneissic beds, vicinity of Parry Sound, Ont., (76-77) p. 204.
- Gneissic lamination in dykes, Kettle River, B.C., near International Boundary, (82-84) p. 21 B.
- Gneissoid rocks, of Cape Breton Island, N.S., geological position of, (76-77) p. 405.
 on Goulais River, Ont., (63-66) p. 116.
 of Saguenay region, Que., (82-84) pp. 6-7 D.
- Goat Island, Niagara River, fresh water deposits on, (1863) p. 913.
- Goodenow's quarry, Thorold, Ont., section of Clinton strata in, (1863) p. 313.
- Goderich, Ont., probable outcrop of Oriskany and Onondaga Formation near, (1863) p. 363.
 probable extent of salt beds in vicinity of, (63-66) p. 271.
 four analyses of brines showing variations in composition, (66-69) E. p. 221, F. p. 244.
 manufacture of salt at, (66-69) E. pp. 222-227, F. pp. 245-251.
 strength of brines from different wells, (66-69) E. p. 222, F. p. 245.
 International works, capacity of, (74-75) p. 270.
 record of well at International salt works, (74-75) p. 285.
 rainfall at, in 1871, (74-75) p. 274.
 analysis of salt from Attrill's boring, (76-77) p. 233.
 section of superficial deposits of, (76-77) p. 225.
 general section in boring at, (76-77) p. 226.
- Goderich brines, Dr. Goessmann quoted on purity of, (66-69) E. p. 226, F. p. 249.
 notes on purity and strength of, (74-75) p. 274.
- Goderich salt, purity compared with others, (63-66), p. 269.
- Goderich region, Ont., advantages of for salt making, (66-69) E. pp. 239-241, F. pp. 265-267.
 report on geology and chemistry of salt in, (66-69) E. pp. 211-244, F. pp. 233-270.
 examination of salt boring at, by T. S. Hunt, (76-77) p. 3.
 report by T. S. Hunt on, (76-77) pp. 221-243.
- Goderich Tp., Ont., section of Corniferous and lower measures on Maitland River, (1863) pp. 376-377.
 blocks of unfossiliferous sandstone in, (1863) p. 894.
 yellow clay supporting northern boulders in, (1863) p. 900.

Goderich Tp., Ont.—*Cont.*

yield of salt wells in, method of manufacture, cost of fuel, &c., (66-69) E. p. 223, F. p. 246.
salt per acre, underlying, (76-77) p. 236.

Goderich well, Ont., record of boring, (63-66) pp. 268-269.

analysis of brine of, (63-66) p. 269.
plant and output of, (63-66), p. 270.
yield of brine per hour of, (63-66) p. 270.
fossils from, (76-77) p. 242.

Godfrey Road, Olden Tp., Ont., speckled hornblende-slates and schists, (74-75) p. 148.

Godie Point, St. Peters Bay, N.S., Devonian rocks of, (77-78) p. 18 F.

Gods Lake, outlet of by Shamattawa River, Keewatin, (77-78) p. 6 CC.

general description of, outlet of, (78-79) p. 30 C.

character of soil about, (78-79) p. 32 C.
note on timber in vicinity of, (78-79) p. 33 C.
list of strikes of gneiss around, (78-79) pp. 34-35 C.

description of Huronian rocks of, (78-79) p. 36 C.

list of glacial striæ observed by Mr. Cochran at, (78-79) p. 40 C.

map of, on scale 4 m. = 1 in., accompanying, (78-79) C.

assay of specimens of quartz from, (78-79) p. 21 H.

GOESSMANN, DR. C. A., analysis of brine from Canastota, N.Y., (66-69) E. p. 219, F. p. 242.

papers on Onondaga salt brines. Acknowledgements to, (66-69) E. p. 221, F. p. 243.
referred to, (76-77) p. 240.

Goessmann's experiments, list of analysis of pickles, (66-69) E. pp. 231-232, F. p. 255.

Goessmann's recommendations for improvement in manufacture of solar salt, (66-69) E. pp. 235-237, F. pp. 261-263.

Goff's mill, Township of Foley, Ont., Nipissing road limestone band, (76-77) p. 207.

Golconda Mining Co., prospectus of, (63-66) p. 64.

Gold, extraction of by hydraulic process, general description of, process used in California and Georgia, (1863) pp. 742-743.

process adopted for its extraction, (63-66) p. 80.

mode of occurrence in ores, (63-66) p. 79.
in Laurentian of Scandinavia, (63-66) p. 196.

found in Lower Silurian, (63-66) pp. 85-86.
geological age of, associated rocks in Canada, Britain, Australia, &c., (70-71) p. 155.

in diorite rocks, quotation from Dr. Genth, (70-71) p. 255.

in mineral veins, note on, distribution of, (70-71) p. 257.

in volcanic rocks, Colorado gold-fields cited, (76-77) p. 479.

Gold in British Columbia:—

in quartz veins, not increasing in richness with depth, (82-84) p. 21 K.

in lower part of Fraser River Valley, (71-72) p. 56.

statistics of, 1869-71, (71-72) p. 152.

found in drift on Prospect Creek, north of Tatlayoco Lake, (75-76) p. 251.

on Parsnip River, occurrence noted, (75-76) p. 81.

general note on, (76-77) pp. 105-119.

localities of occurrence of, list of localities, (76-77) pp. 105-134.

yield of Cassiar, (76-77) p. 117.

remaining in ground worked over in Cariboo, (76-77) p. 114.

product of Leach River, Vancouver Island, (76-77) p. 95.

distribution of, on Leach River, (76-77) p. 100.

sources of, on Leach River, (76-77) p. 100.

sources of in placers, (76-77) p. 107.

from Lightning Creek, Cariboo, (76-77) p. 112.

first found on Thompson River, (77-78) p. 154 B.

in pre-glacial gravels of Cherry Creek and Cariboo district, (77-78) p. 141.

southern part, occurrence of, character of rocks, localities and description, (77-78) pp. 153-160 B.

possible occurrence of in igneous rocks of Tertiary, (77-78) p. 154 B.

discovery of, on Queen Charlotte Islands, (78-79) p. 13 B.

probability of finding on Misinchinca River, (79-80) p. 109 B.

of Fraser River, character of, (82-84) p. 37 B.

Gold in New Brunswick:—

probable success of future operations, (66-69) E. p. 208, F. p. 232.

areas examined in southern part for, (70-71) pp. 228-229.

the Cameron lode, Charlotte Co., (76-77) p. 344.

note on reported discoveries of, in metamorphic rocks of Albert Co., (77-78) p. 12 D.

northern part, note on reported occurrences, gold in drift, (79-80) pp. 43-44 D.

reported discovery of, on Miramichi River, (80-82) p. 22 D.

in York and Carleton Counties, note on similarity of gold-bearing rocks to rocks found in above counties, (82-84) pp. 28-29 G.

Gold in North-west Territory:—

in Red Ochre Hills, south of South Saskatchewan, (73-74) p. 86.

on Saskatchewan River, source of, (73-74) p. 86.

continues but a short distance above Edmonton, probably derived from northern drift, (73-74) p. 58.

origin probably from Archæan of northern and eastern districts, (73-74) p. 58.
at Elbow, on South Branch, (73-74), p. 86.

Gold in North-west Territory—*Cont.*

- on Peace River, general condition, position and origin, (75-76) pp. 81-82.
- note on occurrence of, on East Main coast on Great Whale River and Dog Island, (77-78) p. 20 C.
- reported on Athabasca and Clearwater rivers, (82-84) p. 30 CC.
- in Bow and Belly River district, origin of placer gold, distribution, (82-84) p. 152 C.
- in Southern Alberta, note on, (82-84) p. 138 C.

Gold in Nova Scotia:—

- comparative yield of Nova Scotia and Australia, (70-71) p. 281.
- in mineral veins, age of, (70-71) p. 257.
- record of mines and statistics, 1869-71, (71-72) p. 150.
- of Middle River, (76-77) p. 452.
- in southern Cape Breton and Guysborough Co., note on, (79-80) p. 123 F.
- in Cape Breton Island, note on occurrence of localities, (82-84) pp. 96-97 H.
- search for, near Hume River, Victoria Co., (82-84) p. 7 H.

Gold, in Ontario:—

- notes on occurrence of, in Ontario and Quebec, methods of extraction, (1863) pp. 739-745.
- rocks of Lake Superior, localities, Prince's mine, (1863) p. 745.
- in Hastings Co., discovery in Richardson mine, (66-69) E. p. 165, F. p. 183.
- test of earth from Phoenix mine, (66-69) E. p. 166, F. p. 184.
- trials or trial pits in Madoc and Marmora, (66-69) E. p. 167, F. p. 186.
- note on mode of occurrence, (66-69) E. p. 167, F. p. 185.
- list of localities in which gold occurs, (66-69) E. p. 168, F. p. 187.
- assays by T. S. Hunt, (66-69) E. p. 170, F. p. 188.
- from Prince's location, Thunder Bay, assay by Chapman, (66-69) E. p. 359, F. p. 395.
- traces of, found in quartz vein in dolomites in Lavant Tp., (70-71) p. 314.
- probability of, north of Lake Superior, (70-71) p. 348.
- in Marmora Tp., Hastings Co., geology of, with assays (71-72) pp. 129-140.
- in Madoc and Marmora Tps., mode of occurrence, (71-72) pp. 131-132.
- statistics for 1869-71, (71-72) p. 147.
- reported from Palmerston Tp., (74-75) p. 161.

Gold in Prince Edward Island, note on Cape Wolf rocks, note on results of assays of, (82-84) p. 34 E.

Gold in Quebec:—

- note on occurrence of, source of in veins and in drift deposits, (1863) pp. 518-520.
- in pyrites, note on gold and silver in copper reduced at Ascot, (1863) p. 517.
- in Gaspé Series on Chaudière and St. Francis rivers, (1863) p. 437.
- in rocks of Leeds, (1863) p. 257.

Gold in Quebec—*Cont.*

- found with copper ores in Leeds Tp., (1863) p. 730.
- extraction of, returns of washings for gold on Rivière du Loup, (1863) p. 740.
- in veins, reference to veins at St. Francis, Beauce, (1863) p. 739.
- angular particles from St. Francis, Beauce, origin of, (63-66) p. 85.
- statistics for 1869-71, (71-72) p. 148.
- in drift of eastern part of, list of localities found, (80-82) pp. 3-4 A.
- note on reported discovery of in Shickshock Mts., (82-84) p. 34 E.

Gold alluvial, general considerations, A. Michel on Chaudière gold-field, (63-66) pp. 66-68.

- in California, (63-66) p. 88.
- of Eastern Canada, A. Michel, (63-66) pp. 53-68.

probably derived in Eastern Canada from Lower Silurian rocks, (63-66) p. 69.

- on Chaudière River, Que., (63-66) p. 54.
- on Gilbert River, Que., (63-66) p. 56-60.
- in Lambton Tp., Que., (63-66) p. 65.
- report on St. Francis Valley, Que., (63-66) pp. 62-66.

Gold alluviums, *see also* Auriferous gravels.

- in Australia, age of, (63-66) p. 88.
- of Bolivia, (63-66) p. 88.

Gold and silver assays, by F. D. Adams for 1880, (79-80) pp. 18-21 H.

- of ore from Van Winkle mine, Cariboo, B.C., (75-76) p. 429.
- of ores from British Columbia, (76-77) p. 477.
- of Quebec and Nova Scotia, (76-77) p. 481.
- of ores from Cape Breton to Rocky Mountains, by F. D. Adams, (80-82) pp. 12-15 H.

Gold assays, from Cariboo, B.C., (77-78) p. 49 G.

- from Lake of the Woods, (82-84) pp. 8-15 M.
- of Marmora and Lavant Tps., Ont., assays by B. J. Harrington, (71-72) p. 141.

Gold-bearing drift, of the Chaudière River, Que., referred to, (1863) p. 739.

- of considerable antiquity in Chaudière Valley, (63-66) p. 8.

Gold-bearing quartz, veins in slates of Chaudière and St. Francis rivers, Que., (1863) p. 437.

- of Nova Scotia, note on age of, (1863) p. 745.
- mode of assay used by Hunt, (63-66) p. 81.

- cutting Upper Silurian, Chaudière Valley, Que., (63-66) p. 8.
- of Atlantic Coast Series, extent of, (70-71) p. 268.

of Nova Scotia, relation to granites, (70-71) p. 265.

- geological age of, fossils from, (70-71) p. 269.

in Lavant Tp., Lanark Co., Ont., (74-75) p. 133.

from Partridge Lake, Ont., assay, (76-77) p. 480.

- Gold-bearing quartz—*Cont.*
 from Enterprise Gold and Silver Mining Co., B.C., assay, (78-79) p. 23 H.
 from 12 miles south-east of Rat Portage, Ont., assay, (78-79) p. 23 H.
 from Hay Island, Lake of the Woods, assay, (80-82) p. 15 C.
- Gold-bearing rocks, area of, in British Columbia, (76-77) p. 107.
 of Eastern Quebec, note on origin of gold in, by A. Webster, (80-82) p. 3 A.
 horizon of, on Leech River, Vancouver Island, B.C., (76-77) p. 101.
 of Leach and Sooke Rivers, Vancouver Island, B.C., (76-77) p. 97.
 of Morrison Brook, Middle River, N.S., (82-84) p. 10 H.
 of Sooke River, Vancouver Island, B.C., relations of, (76-77) p. 98.
 of Southern British Columbia, character of, age doubtful, (77-78) pp. 153-154 B.
- Gold-bearing schists of Cariboo, B.C., position in table of formations, (77-78) p. 173 B.
- Gold-bearing series, B.C., note on, Leech River rocks, (76-77) p. 89.
 of Cariboo, B.C., probably represented on Misinchinca River, (79-80) p. 109 B.
- Gold-bearing veins, age of, in Australia, (70-71) p. 257.
 general association and character of, (70-71) p. 254.
 in Huronian of Lac des Mille Lacs, Ont., (72-73) p. 107
- Gold belts surrounding grauite mass, Marmora, Ont., (71-72) p. 130.
 uniform relation to ferriferous belt, Marmora, (71-72) p. 130.
- Gold Brooks, Middle River, N.S., rocks of, described, (82-84) pp. 25-29 H.
- Gold "colours" obtained on shore near Cape Fife, Q.C.Is., (78-79) p. 33 B.
- Gold Creek, B.C., gold workings on, altitude, (76-77) p. 140.
- Gold district of Upper Tobique, N.B., compared to Chaudière, Que., (66-69) E. p. 209, F. p. 232.
- Gold districts of Canada, conclusions regarding by A. R. C. Selwyn, (70-71) p. 282.
- Gold districts in British Columbia, (76-77) p. 115.
- Gold-dust, from St. Francis, Beauce and Rivière du Loup, Que., assays of, (1863) p. 520.
- Gold-fields of Nova Scotia, work by Hunt and Michel, 1867 and 1868, (68-69) p. 4 Summ. previous reports on, (70-71) p. 254.
 topographical survey commenced by W. B. Dawson, area surveyed in 1881, (80-82) pp. 8-9.
 of New Brunswick, summary of previous work in, (70-71) p. 253.
- Gold-fields of Quebec and Nova Scotia, notes and observations by A. R. C. Selwyn, (70-71) pp. 252-282.
- Gold Harbour, Moore Channel, Q.C.Is., description of, (78-79) p. 41 B.
 new Indian village built on Maude Island, Skidegate, Q.C.Is., (78-79) p. 168 B.
- Gold Lake, Loughborough, Ont., bed of plumbago seen near outlet of, (1863) p. 794.
 exposure of crystalline limestone at, extract from Murray's report relative to, (73-74) pp. 108.
 to Eel Lake, magnesian limestones exposed at, (73-74) p. 109.
- Gold mines of Eastern Ontario, notes on Sheppard's mine and Canada Consolidated Gold Mining Co., (82-84) pp. 12-13 L.
- Gold mine at Garthby, Que., notes on, (80-82) p. 5 GG.
- Gold mines of Lake of the Woods, report on, by E. Coste, (82-84) pp. 5-22 K.
- Gold mining, difficulties of, in Cassiar, B.C., (76-77) p. 117.
 in Nova Scotia, system of, causes of failures in, (70-71) pp. 277-278.
- Gold and copper-ores, notes on localities in Lanark Co., Ont., and adjacent townships, (74-75) pp. 160-162.
- Gold Ranges of British Columbia, rocks of probably Archæan age, (77-78) p. 170 B.
- Gold series in Nova Scotia, thickness according to Campbell, (70-71) p. 263.
- Gold, silver and copper-ores, work in laboratory on, (72-73) p. 6.
- Gold streak in quartz veins, (70-71) p. 258.
- Gold veins, horizon of, in Nova Scotia, (70-71) p. 262.
 greatest depth to which followed in Nova Scotia, (70-71) p. 261.
- Gold washings on Rivière du Loup, Que., results of season's work, profits of, (1863) p. 741.
 on Saskatchewan River, progress in 1874-75, (75-76) p. 289.
- Golden Grove Settlement, St. John and Kings Cos., N.B., ridge of Huronian, (70-71) p. 62.
 fault running north of St. John, N.B., (70-71) p. 180.
 Rothesay Tp., N.B., section from north to south, (77-78) p. 5 DD.
 position of beds in Bloomsbury Mt., section of, (77-78) p. 11 DD.
- Golden Lake, Bonnezehere River, Ont., gneiss of, (76-77) p. 258.
 limestones of, (76-77) p. 265.
- Goldings Corners, Wickham, N.B., section of Silurian south of, (75-76) pp. 359-361.
- Goldings Landing, St. John River, Queens Co., N.B., Huronian shales and gneisses, (70-71) p. 71.
- Goldsmith Lake, St. Croix, N.B., syenites of hills near, (70-71) p. 52.
 intrusive granites of, (70-71) p. 187.
- Goldstream, Vancouver Island, B.C., roads to, rocks at bridge, (76-77) p. 95.

- Goldstream Brook, B.C., gold on, (76-77) p. 144.
- Good, C., gold statistics obtained from, (76-77) p. 105.
- GOODWILLIE, REV. J. M., presentation of fossils by, (80-82) p. 23.
donation of fossils by, (82-84) p. 19.
- Goodfellow mine, Albert Co., N.B., note on ore and breadth of lead, (80-82) pp. 23-24 D.
- Good's iron mines, Carleton Co., N.B., thickness of ore, (74-75) p. 99.
- Goose Cove Brook, Victoria Co., N.S., pre-Cambrian of upper part of (82-84) p. 12 H.
- Goose Creek, N.B., Bay of Fundy, Carboniferous rocks, east side of, (70-71) p. 211.
crystals of calcite from (70-71) p. 237.
- Goose Harbour Lakes, Guysborough, N.S., rocks exposed along the Guysborough road, (79-80) p. 45 F.
- Goose Harbour River, N.S., pre-Cambrian syenite referred to, (79-80) p. 10 F.
sequence of strata in, fossil plants noticed in beds of (79-80) pp. 48-49 F.
- Goose, or Herkyelthie Lake, B.C., hilly country westward of (76-77) p. 19.
- Gooseberry Cove, Cape Breton Co., N.S., felsites in vicinity of (77-78) p. 7 F.
- Gooseberry Cañon, of St. Mary River, Alta., exposures in, fossils, (82-84) pp. 58-59 C.
- Gordon's iron-ore deposits, Bathurst Tp., Ont., (74-75) p. 118.
- Gore Bay, Manitoulin Island, section of Hudson River Formation at (66-69) E. p. 111, F. p. 125.
- Gorge at mouth of Grand Matte River, Gaspé, illustration showing, (80-82) facing p. 22 DD.
- Gorhams Bluff, Long Reach, N.B., coastal rocks of Huronian, (70-71) p. 117.
fossiliferous sandstone, associated rocks, (77-78) p. 34 DD.
- Gosford Mountain, Lake Megantic, Que., probably granite, (1863) p. 431.
- Goshen, N.B., beds of graphite cut by veins of graphite at, (63-66) p. 222.
denudation of Lower Carboniferous and unconformity at top of in, (72-73) p. 194.
- Göthite with hematite and limonite, Clifton and Sheubenacadie, N.S., (73-74), p. 321.
- Gouffre River, Que., width of Trenton limestone band on, (1863) p. 162.
- Goulais Bay, Lake Superior, map of country east of, 8 m. = 1 in., (1863) Atlas.
diorite dykes of (63-66) p. 120.
greenstones of, (63-66) p. 125.
banded slates of, (63-66) p. 126.
copper ores near, (63-66) p. 131.
- Goulais Promontory, Lake Superior, sandstone reported as underlying, (1863) p. 83.
- Goulais River, Lake Superior, area of Huronian north of, (1863) p. 63.
superficial deposits of, interbedded plant remains, Algoma sand, (1863) pp. 905-907.
- Goulais River, Lake Superior—*Cont.*
description of gneiss at Goulais Falls, (63-66) p. 116.
description of diabase rocks of (63-66) p. 123.
character of, geological description, (75-76) pp. 336-337.
- Goulbourn Tp., Ont., peat deposits in, noted, (1863) p. 780.
- Goulet Pond, Madame Is., N.S., felspathic sandstone at head of, section of rocks to Descousse, (79-80) p. 35 F.
- GOULD, MR., analysis of rock salt from Goderich, Ont. (76-77) p. 233.
- Government buildings, Ottawa, limestones quarried for, (76-77) p. 246.
- Government House road, Armstrongs Corners, Queens Co., N.B., exposures of Huronian, at (70-71) p. 66.
- Gow Mine., Hull Tp., Que., amount of work done, apatite extracted, (82-84) p. 17 L.
- Gowrie Mines, Cape Breton Co., N.S., position, extent of workings, coal available, (72-73) p. 282.
quality of coal of, workings, (72-73) p. 283.
machinery at, drainage and railway, (72-73) p. 284.
wharf and breakwater of, old workings, (72-73) p. 285.
underground workings of, ventilation, (72-73) p. 286.
production of, (72-73) p. 286.
drainage of, (72-73) p. 286.
statistics of, force employed, yield, etc., (72-73) p. 290.
new shafts sunk at, (74-75) p. 211.
- Gozzan, origin of, (63-66) p. 85.
- Grafton, N.B., sections of terraces on St. John River, (82-84) p. 29 GG.
- Graham Channel, B.C., gneiss with limestones on, (74-75) p. 77.
- Graham Is., Q.C.Is., coal measures at Narrows, (72-73) p. 62.
conglomerates of coal-bearing rocks on, (72-73) pp. 62-63.
description of east coast of, from Skidegate to Rose Point, (78-79) p. 32 B.
description of north shore of, Rose Point to Masset, (78-79) p. 34 B.
description of coast from Masset to Virago Sound, (78-79) p. 38 B.
notes on Imray's description of west coast of, (78-79) pp. 40-41 B.
Tertiary rocks of, area, lignite, amber, fossils, etc., (78-79) pp. 84-89 B.
sections of clays and sands on east coast of, (78-79) p. 91 B.
Cretaceous of northern extremity of, (78-79) pp. 83-84 B.
- Graham River, Inverness Co., N.S., pre-Cambrian syenites, etc., exposed on, (79-80) p. 14 F.
gneiss and limestone of, (79-80) pp. 26-27 F.
Carboniferous rocks of, fossils, sandstone quarry, volcanic rocks, (79-80) pp. 103-104 F.

- Graham River, Inverness Co., N.S.—*Cont.*
note on building stones at, (79-80) p. 125 F.
- Grain and root crops of Edmonton and Victoria,
N.W.T., in 1875, (75-76) p. 289.
- Grammatodon Illasyoucoensis*, Whiteaves, de-
scription of species, (76-77) p. 153.
- Grammatodon inornatus*, note on specimen from
Illasyouco River, B.C. (76-77) p. 153.
- Grammo Point, Inverness Co., N.S., Bras d'Or
Lake, composed of gravel and on north
side gypsum and selenite, (79-80) p. 102
F.
- Granby, Que., exposure of sandstone and red
shales at, (1863) p. 245.
titanic acid found in limestone of, (1863) p.
502.
analysis of magnesian limestone holding
chrome and nickel, (1863) p. 614.
- Granby Tp., Que., copper localities in, (63-66)
p. 300.
copper and lead ores noted in, (1863) p. 712.
- Grand Anse, Richmond Co., N.S., hornblende
gneiss and mottled syenite in stream west
of, (79-80) p. 8 F.
- Grand Anse River, Pleasant Bay, N.S., pre-
Cambrian rocks of, (82-84) p. 20 H.
- Grand Bar Creek, St. John River, N.B., kames
at mouth of and in valley of, (82-84) p. 22
GG.
- Grand Bay, St. John River, N.B., Lower Car-
boniferous at, (70-71) p. 206.
- Grand Bay, Lake Nipigon, Ont., effects of recent
ice movement, (66-69) E. p. 354, F. p. 392.
ice groves on wall of trap at, (66-69) E. p.
352, F. p. 389.
- Grand Briant Brook, Mal Bay, Gaspé, Que.,
Lower Carboniferous unconformably on
Devonian, (80-82) p. 2 DD.
- Grand Calumet, Ottawa River, note on sup-
posed Laurentian fossil found by I. Mc-
Mullen, with wood-cuts, (1863) pp. 48-49.
limestone on Ottawa River, (76-77) pp. 259,
281, 283.
- Grand Carrière, Gaspé, Que., Lower Helder-
berg fossils from, (82-84) p. 30 E.
- Grand Coupe, Gaspé, Que., great fault in Hud-
son River rocks of, (1863) p. 269.
- Grand Detroit, Nipigon Bay, Ont., slates of
lower part of Upper Copper-bearing rocks
at, (1863) p. 77.
- Grand Entry Harbour, Magdalen Islands, Que.,
formation of, (79-80) p. 2 G.
- Grand Etang, N.S., Lower Carboniferous rocks
of vicinity, (82-84) pp. 38-39 H.
- Grand Etang, or Great Pond River, Gaspé,
Que., width of Hudson River rocks near,
(80-82) p. 21 DD.
- Grand Falls of Kaministiquia River, Ont.,
height of, (1863) p. 69.
- Grand Falls of Magdalen River, Gaspé, Que.,
illustration showing, (80-82) facing p. 21
DD.
- Grand Falls, St. John River, N.B., rocks on
river below, (70-71) p. 250.
great bed of drift damming river at, cause
of fall, section of drift, (82-84) p. 13 GG.
section of terraces in valley at, (82-84) pp.
35-36 GG.
- Grand Forks, Fraser River to Moose River, B.C.,
journal of A. R. C. Selwyn, (71-72) pp.
42-43.
- Grand Frenier, Que., analysis of kaolin from,
(78-79) p. 7 H.
- Grand Grève, Gaspé Bay, Que., fossils of upper
division of Devonian (80-82) pp. 13-14 DD.
list of fossils collected by Barlow and Gir-
oux at, (82-84) p. 24 E.
- Grand Harbour, Grand Manan Island, N.B.,
rocks on coast from Woodwards Cove to,
(70-71) p. 106.
rocks exposed on shores of, (70-71) pp. 106-
107.
- Grand Island, Lake Superior, sandstones re-
ported capped by fossiliferous limestone,
(1863) p. 83.
- Grand Isle, Beauharnois, Que., Calciferous
Formation in quarries on, (1863) p. 114.
- Grand Isle, St. Lawrence River, base of Chazy
Formation at, (1863) p. 126.
limestone for building purposes at, (1863) p.
817.
section of rocks of, (66-69) E. p. 126, F. p.
141.
- Grand Lake, Madame Is., N.S., character of
land about, (79-80) p. 36 F.
- Grand Lake, Queens Co., N.B., largest coal
seam in New Brunswick at, (70-71) p. 21.
early discovery of coal seams and boring
experiments at, (72-73) p. 180.
topographical features and tributary streams
of, (72-73) p. 198.
exposures on shores of, Coal Measures, (72-
73) pp. 209-213.
- Grand Lac, Que., estimated height and area,
(1863) p. 6.
- Grand Lake, St. Croix River, N.B., moraines
crossing valley, (82-84) p. 10 GG.
waters held in by dam of boulder-clay at,
(82-84) p. 11 GG.
height of, drift barrier at, moraines near,
character of surrounding country, (82-84)
p. 16 GG.
- Grand Lake district, N.B., history of earlier at-
tempts to discover coal in, (72-73) p. 225.
map in course of preparation, also published
in Walker and Miles' atlas, (74-75) p. 6.
necessity for boring operations at, (74-75) p.
92.
estimate of quantity of coal in, (78-79) p. 20
D.
extent of surface seam and quality of coal at
(78-79) p. 20 D.
- Grand Lake mines, N.B., statistics of coal,
1869-71, (71-72) p. 151.

- Grand Lake road, N.S., section of Millstone Grit on, between Lorway and Sydney Harbour, (74-75) p. 190.
- Grand Lake Map-sheet, map of part of Sunbury, Queens, Kings and Albert Cos., N.B., scale, 4 m. = 1 in., (78-79) D.
- Grand Manan Island, N.B., first geological description by Gesner, (70-71) p. 100.
crystalline rocks of, (70-71) pp. 100-112.
description by Prof. Verrill, referred to, in *Acadian Geology*, (70-71) p. 101.
map published by Dr. Robb, referred to, (70-71) p. 101.
description of pre-Cambrian rocks of eastern side, (70-71) pp. 102-112.
Kingston Group, note on, (70-71) p. 133.
Triassic rocks of, details, history, (70-71) pp. 218-221.
spathic iron-ores in Huronian rocks of, (70-71) p. 224.
veins of oarytes near Swallow-tail Light, (70-71) p. 237.
rocks of, (76-77) p. 239.
travelled boulders found on, (77-78) p. 2 EE.
- Grand Manitoulin Island, the Niagara Formation on, width, character of coast, (1863) p. 333.
petroleum spring reported on, (1863) p. 521.
report on geology of, (63-66) pp. 165-179.
geographical description of, (63-66) p. 165.
Huronian rocks of, referred to, (76-77) p. 210.
- Grand Marais, Ottawa River, deposit of ochre at, (1863) p. 769.
- Grand Matanne River, Que., analysis of epidosite from, (1863) p. 497.
- Grand Matte, Gaspé coast, Que., contorted strata, crumpled anticline, (80-82) p. 22 DD.
- Grand Matte River, Gaspé, Que., undulations in Hudson River rocks of, (1863) p. 269.
gorge at mouth of, illustration showing (80-82) facing p. 22 DD.
- Grand Michaud Point, to Les Islets, Que., rocks of, shore of St. Lawrence, (80-82) p. 27 DD.
fossils of Levis type collected at, (80-82) pp. 27-28 DD.
- Grand Narrows Map-sheet, parts of Victoria, Cape Breton and Richmond Cos., N.S., accompanying, (76-77) p. 456.
- Grand Pabos, Gaspé, Que., exposures on coast of, conglomerates at, (1863) p. 442.
Lower Carboniferous beds, (80-82) p. 1 DD.
Cambro-Silurian rocks of, two series very similar at, apparent unconformity, (80-82) p. 16 D.
- Grand Pabos River, Gaspé, Que., surveys made in 1883, (82-84) p. 9.
note on distribution of Cambro-Silurian on, (82-84) pp. 30-31 E.
- Grand Point, Grand Lake, N.B., character of shore at, (72-73) p. 210.
- Grand Portage mine, Mich., description of rocks (63-66) p. 160.
- Grand Portage, Mississagui River, Ont., notes on copper ores of vicinity of, (1863) p. 698.
- Grand Portage, Pigeon River. Ont., soil, trap bluffs, (72-73) p. 92.
- Grand Pré seignory, Que., exposures of Trenton group in, (1863) pp. 151-152.
- Grand Quarry, Inverness Co., N.S., note on quality and extent of workings for marble, (77-78) pp. 30-32 F.
- Grand Rapids, Athabasca River, illustration showing, (82-84) facing p. 10 CC.
sandstones of, fossil wood, conglomerate concretions. section at foot of rapid, (82-84) pp. 10-11 CC.
- Grand Rapids of Mattagami River, Ont., notes on Devonian fossils from, (75-76) pp. 316-320.
marine clay, lignite fragments, (75-76) p. 320.
- Grand Rapids of the Saskatchewan, cliffs of Silurian rocks at, (73-74) p. 52.
- Grande Rivière du Chêne, Lotbinière, Que., Hudson River Formation on, (1863) p. 203.
- Grand River, Gaspé, Que. the Bonaventure Formation exposed on coast near, (1863) pp. 441-442.
rocks of, for 12 miles up, (1863) p. 886.
Lower Carboniferous rocks near, lying on Silurian slates, (80-82) p. 1 DD.
Silurian rocks on, (80-82) p. 15 DD.
- Grand River, N.B., outcrop of Silurian on route to Waagun River, (79-80) p. 18 D.
- Grand River, Ont., height at G. T. R. crossing, (1863) p. 15.
exposures of gypsum beds on, (1863) pp. 347-351.
section of water-lime formation of Lower Helderberg at Jones' tract, (1863) p. 354.
gypsum of, general note on deposits, lenticular masses, (1863) p. 762.
analyses of soils from alluvial flats of, (1863) p. 640.
note on alluvial deposits of, land and fresh water shells in, (1863) p. 913.
- Grand River, N.S., porphyritic felsites of, (77-78), p. 10 F.
Devonian rocks of, (77-78) pp. 20-21.
- Grand River Bridge, N.S., contact of felsites with Carboniferous conglomerates at, (77-78) p. 10 F.
intrusive diorite and altered sandstone near, (77-78) p. 20 F.
- Grand River Falls, Richmond Co., N.S., Carboniferous rock at, (77-78) p. 24 F.
- Grand River plaster beds, N.S., statistics to 1871, (71-72) p. 147.
- Grand Sable, Lake Superior. Sand interstratified with gravel, bed of vegetable matter in clay and gravel, (1863) pp. 905-966.

Grand Savanne, peat bog, Lanoraie, Que., description of, (1863) pp. 781-782.

Grank Trunk mine, Stukley Tp., Que., copper ores of, (63-66) p. 34.

Grand Trunk Railway, heights on, in Western Ontario, (1863) p. 15.

Grand Trunk well, Bosanquit, Ont., (63-66) p. 248.

Grandause River, Pleasant Bay, N.S., sandstone and conglomerate series on, (82-84) p. 46 H.

Lower Carboniferous limestone, series of, (82-84) p. 52 H.

Grande Prairie, south of Peace River, N.W.T., description of, (79-80) p. 53 B.

Grande Prairie, B.C., illustration showing, (77-78) facing p. 62 B.

to South Thompson River, B.C., description of trail, (77-78) p. 62 B.

general description of area, bed of old lake, irrigation necessary, (77-78) p. 61 B.

Grande Décharge, Saguenay River, Que., occurrence of mica at, (82-84) p. 9 D.

Trenton limestone outliers near (82-84) p. 14 D.

Grandique ferry, Richmond Co., N.S., Carboniferous rocks on road to, (79-80) p. 67 F.

Grandison Tp., Que., magnetic iron-ore deposits reported at, (1863) p. 673

Granite, for building, notes on, in Stanstead, Barford and Eastern Townships, (1863) p. 810.

in vicinity of Ashnoulow Valley, Southern British Columbia, (82-84) p. 15 B.

of Bigsby Inlet, Q.C.Is., (78-79) p. 57 B.

of vicinity of Bathurst, N.B., (79-80) p. 33 D.

in vicinity of Cape Canso, N.S., general extent of, (82-84) pp. 14-15.

of Cape Gargantua, Lake Superior, (76-77) p. 218.

in Cape Breton, N.S., building stone, etc., (76-77) p. 456.

at Cape Rhumore, N.S., (76-77) p. 419.

distribution of, in Charlotte Co., N.B., (76-77), p. 328.

in vicinity of Choyé Cove, Lake Superior, (76-77) p. 219.

outlier at Calboun's mill of, Westmoreland Co., N.B., (77-78) p. 6 D.

and associated rocks in Charlotte Co., N.B., (76-77) p. 322.

in Eastern Quebec, probable origin of, (1863) p. 669.

of Eastern Townships of Quebec, note on origin of, (79-80) pp. 5-6 Summ.

on François Lake, B.C., (76-77) p. 85.

Gros Cap, Lake Superior, vicinity of, (76-77) p. 220.

of Gods and Island Lakes, Keewatin, note on, (78-79) p. 34 C.

grav, on Kapikotongwa River, branch of Albany River, (71-72) p. 108.

of east shore, Lake Superior, (63-66) p. 119.

of Little Southwest, Miramichi River, N.B., (79-80) p. 32 D.

Granite—*Cont.*

and gneisses of Lower Skeena River, B.C., (79-80) p. 101 B.

of Madoc Tp. Hastings, Ont., (63-66) p. 92.

of Marmora, Ont., age of, (71-72) p. 130.

general distribution and mode of occurrence, (78-79) p. 22 D.

in vicinity of Michipicoten River, Lake Superior, (76-77), p. 220.

on Miramichi River, N.B., width of, (66-69) E. p. 194, F. p. 218.

in vicinity of Montreal River, Lake Superior, (76-77) p. 217.

on McKays Lake, Pic River, Ont., (70-71) p. 331.

of country west of Nerepis River, N.B., (70-71) p. 184.

of Nerepis Hills, N.B. details of exposures, (70-71) pp. 183-190.

in New Brunswick, northern masses of, described by Gesner, (70-71) p. 19.

age of certain, below Bonaventure Formation, Nipisiguit River, N.B., (1863) p. 452.

of Nova Scotia, relations to gold rocks, (70-71) p. 265.

exotic origin discovered, (71-72) p. 144.

contact with slates on Piskahegan River, N.B., (76-77) p. 330.

in vicinity of Pointe aux Mines, Lake Superior, (76-77) pp. 214-215.

of Rivière de la Vieille, Lake Superior, (76-77) p. 219.

of Township of Rutherford, Ont., (76-77) p. 209.

of Shibaonaning, Ont., (76-77) p. 208.

masses of, and trap rocks of Shickshock Mountains, Que., (82-84) pp. 20-21 F.

of Sip-ki-aw Rapid, Skeena River, B.C., note on, (79-80) p. 101 B.

on Similkameen River, B.C., below Vermilion, (77-78) p. 84 B, and (82-84) pp. 17-18 B.

on main South-west Miramichi River, N.B., character of, (79-80) p. 35 D.

in Southern Quebec, note on, (80-82) p. 4 A.

of Vermont, reference to Hitchcock's determination of age of, (80-82) pp. 6-7 A.

of Southern New Brunswick, for building stones, (70-71) p. 233.

for ornamental purposes, varieties of, (70-71) p. 236.

at Victoria Mine, Georgian Bay, (76-77) p. 212.

containing many inclusions of older rocks, in York Co., N.B., (82-84) p. 24 G.

of York and Carleton Cos., N.B., (70-71) pp. 245-247.

of York and Carleton Cos., N.B., (82-84) pp. 23-25 G.

Granite dykes, in Devonian limestone of Stanstead, Que., diagram showing, (1863) p. 434.

age of, near François Lake, B.C., (76-77) p. 85.

on Tahyesco River, Salmon River, B.C., (76-77) pp. 65-66.

cutting apatite veins in Templeton, (77-78) p. 30 G.

- Granite hills on Michipicoten River, Ont., general relation to junction of Huronian and Laurentian, (80-82) p. 3 C.
above Long Portage, illustration showing, (80-82) facing p. 3 C.
- Granite, indigenous, Laurentian system, note, (1863) p. 587.
in eastern Palæozoic area, St. Joseph and Sutton Mt., Que., (1863) p. 600.
masses of, in Shipton, St. Joseph and on the Chaudière River, Que., (1863) p. 669.
- Granite, intrusive, Devonian, on Lake St. Francis, Que., (1863) p. 430.
Devonian, age of, in Eastern Quebec, east of Notre Dame Mts., (1863) p. 669.
Devonian, of Canaan and Stanstead, Que., description of exposures, with diagram showing dykes, (1863) p. 434.
Huronian, general note on characters of, in Lake Huron area, (1863) p. 58.
rear of Lilly Lake and Entiac River, B.C., (76-77) pp. 69-70.
at Tanyabunkut, B.C., (76-77) p. 64.
- Granite ls., Black Bay, Lake Superior, galena in vein on, (66-69) E. p. 360, F. p. 398.
red sandstone and red shale resting on gneiss at, (1863) p. 78.
galena in veins on, (1863) p. 690.
- Granite Lake, Pic River, Algoma, granite on, (70-71) p. 333.
- Granite Peak, Shuswap Lakes, B.C., elevation of, (77-78) p. 23 B.
- Granite Point, Skincuttle Inlet, Q.C.Is., description of, (78-79) p. 19 B.
syenite of, (78-79) p. 55 B.
- Granite porphyry of Table-top Mt., Gaspé, lithological description of, (82-84) p. 21 F.
- Granite quarries in Northern New Brunswick, (79-80) p. 47 D.
- Granite and granitic rocks, general varieties, etc., (1863) p. 647.
of Lake Abatagomaw, near Mistassini, (70-71) p. 291.
of St. George, N.B., (76-77) p. 346.
- Granite gneiss and mica schist series of interior of British Columbia, (71-72) pp. 64-66.
- Granite and gneiss series in Northern Frontenac, Ont., (72-73) pp. 147-150.
- Granite veins, cutting Laurentian and Labradorite rocks, Saguenay Co., Que., (66-69) indicating proximity of Huronian band, (72-73) p. 103.
of Franklin Inlet, Ont., (76-77) p. 201.
of mouth of French River, Ont., (76-77) pp. 195-202.
of north-east shore of Georgian Bay, Ont., (76-77) p. 200.
in McDougall Tp., Ont., (76-77) p. 205.
of Parry Island, Ont., (76-77) p. 199.
at Pointe aux Mines, Lake Superior, (76-77) p. 216.
- Granitic alteration of beds on Shuswap Lake, B.C., (77-78) p. 100 B.
- Granitic area of York and Carleton Cos., N.B., (66-69) E. pp. 193-195, F. pp. 214-217.
- Granitic belt of Nova Scotia, observations by Hind and Selwyn, (70-71) p. 265.
of Southern New Brunswick, as described by Gesner, (70-71) p. 19.
- Granitoid gneiss, general description of, (1863) p. 23.
in Elzevir Tp., Ont., (63-66) p. 92.
at Lamoirondières Bay, Ont., (76-77) p. 209.
on Ottawa River, upper part, below Lac des Quinze, (72-73) p. 116.
- Granitic rocks, two classes, in Central British Columbia, note on, (76-77) p. 93.
- Granitic veins of Laurentian, (63-66) p. 187.
- GRANT, COL. C. C., Clinton and Medina fossils presented to Museum by, (70-71) p. 10.
Hamilton fossils presented to Museum by, 1871, (71-72) p. 14.
fossils presented to Museum in 1872-73, (72-73) p. 2.
fossils presented to Museum by, (73-74) p. 5.
number of fossils collected by, (74-75) p. 11.
collection of fossils presented by, (80-82) p. 24.
donations to Museum by, (82-84) p. 19.
- GRANT, SIR JAMES, mineral waters sent to Museum by, (74-75) p. 14.
- Grant Lake, Guysborough Co., N.S., note on outlet of, (79-80) p. 112 F.
- Grant mine, Buckingham, Que., drusy cavities in veins at, (77-78) p. 7 G.
specific gravity of apatite of, (77-78) p. 14 G.
mountain leather from, (77-78) pp. 16, 24.
analyses of apatite from, (77-78) pp. 3-4, 7-8, 10 H.
- Grant pit, Emerald mine, Que., description of, (82-84) p. 12 J.
- Grant Point, Strait of Canso, N.S., section of Carboniferous at, (79-80) pp. 77-78 F.
- Grant Settlement, Musquodoboit River, N.S., assay of mispickel for gold and silver, (79-80) p. 18 H.
- Graham Tp., Que., copper localities, (63-66) p. 309.
- Grantville Brook, Coxheath Hills, N.S., metamorphic rocks of, quartzites, copperpyrites, (75-76) pp. 373-374.
Carboniferous conglomerate of, (75-76) p. 396.
section of Carboniferous limestone on, (75-76) pp. 404-405.
- Grants Brook, Dumfries Settlement, N.B., character of Cambro-Silurian, (79-80) p. 24 D.
- Grant's farm, Pictou Co., N.S., pit on main seam, section of, (66-69) E. p. 74, F. p. 82.
- Grants Islands, Lake Huron, rocks belonging to Trenton Group exposed on, (1863) p. 195.
- Grant's mill, Four-mile Brook, Canterbury, Carleton, N.B., igneous rocks in Cambro-Silurian, (82-84) p. 15 G.

- Grant's mills, Petite Nation River, Ont., exposures of Calciferous at, (1863) p. 118.
- Granular gneiss, Roberts Bay, Ont., (76-77) p. 207.
- Granulated iron used in making malleable iron, (66-69) E. p. 304, F. p. 336.
- Granulite ridge, north-west of Long Reach, St. John River, N.B., (77-78) p. 27 D.
- Granville Tp., Que., middle division of Potsdam Formation in, (66-69) E. p. 129, B. p. 144.
- Graphite, *see also* Plumbago.
- Graphite, analyses of:—
- from Buckingham Tp., Que., lots 22, 23 and 28, R. VI., (75-76) pp. 426-428.
 - from lot 20, R. VIII., (75-76) p. 427.
 - ash in, results of dressed, (76-77) pp. 495-500.
 - table showing composition of, (76-77) p. 507.
 - specimens by Cloez, (63-66) p. 221.
 - Ticonderoga, N.Y., (76-77) p. 506.
- Graphite, general note on occurrence of, in Laurentian, (1863) p. 26.
- note on origin of, occurrences of in Laurentian and other rocks, (1863) p. 529.
- general uses of, localities, general note on, (1863) p. 793.
- Brodie on origin of, (63-66) p. 222.
- Pauli, researches of, (63-66) p. 221.
- impurities of, in Canada, (63-66) p. 220.
- in Laurentian, (63-66) pp. 218-223.
- occurrence in United States, (63-66) p. 218.
- general mode of occurrence in veins, (63-66) p. 219.
- seldom in stratified beds in pure crystals, (63-66) p. 219.
- properties of, at high temperature, (63-66) p. 223.
- formed chemically at high-low temperatures, (63-66) p. 223.
- found in cast iron, (63-66) p. 223.
- from Quebec Group, altered beds of coal, (63-66) p. 221.
- with hematite, in Hull Tp., Que., (63-66) p. 219.
- localities of occurrence and state of mining in Lochaber and Buckingham, Que., (63-66) pp. 22-23.
- in Loughborough Tp., Ont., Gold Lake, not in bed, (63-66) p. 219.
- of Passau in Bavaria, (63-66) p. 197.
- mode of occurrence at Ticonderoga, N.Y., (63-66) p. 27.
- occurrence of in Wentworth Co., Argenteuil, Que., (63-66) p. 26.
- amorphous, from Clarendon, Ont., (63-66) p. 219.
- fibrous form, note on, (63-66) p. 220.
- sedimentary varieties, foreign examples of, (63-66) p. 221.
- deposits of, in Southern New Brunswick, (70-71) p. 231.
- Graphite—*Cont.*
- associated with Bobs Lake band of crystalline limestone, (73-74) p. 106.
 - associated with magnetite, (73-74) p. 201.
 - with hematite, Woodstock, N.B., Hull, Que., and Haycock mine, Templeton, (73-74) p. 221.
 - openings in Buckingham, Que., in concessions 4 to 10, (73-74) pp. 140-143.
 - mode of determining combustibility of, (76-77) p. 490.
 - table showing relative combustibility of, (76-77) p. 509.
 - methods employed in examination of, (76-77) p. 489.
 - further purification of dressed, note on, (76-77) p. 498.
 - at Dumbarton Station, N.B., (76-77) p. 329.
 - report on workings in Ottawa Co., Que., (76-77) pp. 308-320.
 - in Parry Sound band, Georgian Bay, Ont., (76-77) pp. 204-206.
 - in Roberts Bay band, Georgian Bay, Ont., (76-77) p. 207.
 - Canadian, report on by G. C. Hoffmann, (76-77) pp. 489-510.
 - equal to foreign, (76-77) p. 510.
 - Ceylon, analysis of vein, columnar and foliated, (76-77) pp. 504-506.
 - analysis of, from Buckingham, Que., (76-77) p. 492.
 - dressed, examination of, from Buckingham, Que., (76-77) p. 495.
 - vein, from augmentation of Grenville, analysis of, (76-77) pp. 502-504.
 - from Buckingham, Que., analysis of, (76-77) p. 500.
 - of apatite-bearing rocks, Ottawa Co., Que., note on occurrence of, (77-78) p. 37 G.
 - from St. John, N.B., result of trials in making pencils and electrotyping, (78-79) p. 4 H.
 - disseminated, from Split Rock Plumbago mine, St. John, N.B., analysis of, (78-79) p. 3 H.
 - continuation of report on, by G. C. Hoffmann, (78-79) pp. 2-4 H.
 - in syenite near Glendale, Inverness Co., N.S., origin of graphitic shales, (79-80) p. 13 F.
 - of Glendale, Inverness Co., N.S., note on, (79-80) p. 125 F.
 - reported on Reindeer Lake, N.W.T., (79-80) p. 16 C.
 - occurrence of, in Wakefield Tp., Que., (80-82) p. 6 GG.
 - reported on north shore of Athabasca Lake, (82-84) p. 32 CC.
 - reported near Ashes Inlet, Hudson Strait, (82-84) p. 24 DD.
 - price of, German, Ceylon and American, (82-84) p. 32 J.
 - general note on Canadian industry, cause of collapse of, ore dressing at Ticonderoga, N.Y., (82-84) pp. 30-31 J.
 - occurrence of, on lot 10, R. I., South Burgess, Ont., noted, (82-84) p. 14 L.

- Graphite, vein, similar to that from Ceylon, (63-66) p. 221.
- Graphites, investigation of, by G. C. Hoffman, referred to, (76-77) p. 6.
- Graphitic limestone in Dallas Brook, crystalline limestone outlier, Inverness, N.S., (79-80) p. 19 F.
- Graphitic schists, Buckingham Tp., Que., (76-77) p. 310.
- Graphitic shale from French Vale, N.S., analysis of, (79-80) pp. 1-2 H.
from Glendale, N.S., analysis of, (78-79) p. 2 H.
- Graphitic slates, Cameron Brook, North Bay, Ingonish, N.S., (82-84) p. 17 H.
mistaken for coal in vicinity of Dallas Brook, North Mountain, N.S., (79-80) p. 19 F.
- Graptolites, of Bay St. Paul, Nfld., at the Narrows, (1863) p. 878.
list of, from Point Levis, Que., (1863) p. 232.
of Levis division, Quebec group, localities, (63-66) p. 31.
bit of, from near Griffin Cove, Gaspé, Que., (80-82), p. 17 DD.
from Matanne, Que., identified by H. M. Ami, (80-82) p. 22.
- Graptolitic shales in Gaspé Group, Middle River, Port Daniel, Que., (1863) p. 445.
Margaret Island, St. Lawrence River, Que., (66-69) E. p. 131, F. p. 145.
of Tête à Gauche River, N.B., and associated beds, (79-80) p. 23 D.
of Gros Mâle, Gaspé, Que., list of fossils, (80-82) p. 22 DD.
of Port Daniel, Que., probable horizon of, (80-82) p. 15 D.
- Graptolithidae* of the Quebec Group, list of, (1863) p. 955.
- Graptolithus bicornis*, Hall, wood-cut of, (1863) p. 200.
- Graptolithus bryonoides*, Hall, wood-cut of, (1863) p. 226.
- Graptolithus flexilis*, Hall, wood-cut of, (1863) p. 228.
- Graptolithus Headi*, Hall, wood-cut of, (1863) p. 228.
- Graptolithus Logani*, Hall, wood-cut of, (1863) p. 226.
- Graptolithus octobrachiatus*, Hall, wood-cut of, (1863) p. 226.
- Graptolithus pristis*, Hall, wood-cut of outline, (1863) p. 200.
- Graptolithus ramosus*, Hall, wood-cut of, (1863) p. 200.
- Grass Island Brook, Que., trial pits for gold, made by A. Michel, (63-66) p. 63.
- Grass or grazing land, head-waters Canoe River and Selwyn River, B.C., (71-72) p. 70.
- Grass River area of Huronian, on Nelson River, (78-79) p. 13 C.
- Grass River, branch of Nelson River, general description up to Wintering Lake, with notes on rocks of, (78-79) pp. 27-29 C.
description and illustration of great dyke at Standing Rock Rapid, (78-79) p. 28 C.
list of glacial striae, (78-79) p. 39 C.
variation of compass on, (78-79) p. 72 C.
- Grassberry River, Pine Island Lake, Sask., description of, (79-80) p. 11 C.
- Grassy Island, Bow River, Alta., estimated quantity of coal under one square mile, (80-82) p. 22 B.
rocks exposed, section showing coal seams, (82-84) p. 90 C.
outcrop of coal at, (82-84) p. 33 C.
analysis and calorific power of lignite from, (82-84), pp. 18-19 M.
- Grassy Island coal seam, exposed on Red Deer River, (82-84) p. 95 C.
- Grassy River, branch of Matagami River. Ont., rocks of head-waters of, (75-76) p. 306.
- Grauwacke from Eastern Quebec, Potton, Ship-ton, Acton, etc., Tps., microscopic structure of, (80-82) pp. 20-23.
- Gravel, Artemisia, of western peninsula of Ontario, outline of area covered, origin of deposit, (1863) pp. 908-909.
- Gravel deposits of Bay of Fundy by tidal waters, (77-78) p. 21 EE.
- Gravel Ridges in Southern New Brunswick, classification of, (77-78) p. 12 EE.
Table of, (77-78) pp. 13-15 EE.
on Swan River trail, Man., (74-75) p. 33.
on height-of-land south of James Bay, (75-76) p. 340.
- Grand terraces of upper part of Albreda River, B.C., (71-72) p. 38.
- Gravels of the Upper Fraser River, B.C., between Quesnel and Fort George, (75-76) pp. 263-264.
- Gravelly Bay in Wainfleet Tp., Ont., petroleum in Corniferous limestone of, (1863) p. 368.
- Gravelly Point, Lake Superior, occurrence of heavy spar and fluor-spar noted, (1863) pp. 458-463.
- Graves Island, Lake Simcoe, Ont., exposures of Trenton on, (1863) p. 193.
- GRAY, CAPT., visit of, to Q.C.Is., called the group Washington Is., (78-79) p. 10 B.
- Grays Brook, Aspy River, N.S., syenite, etc., of, (82-84) p. 19 H.
- Grayling of Churchill River identified, (78-79) p. 7 C.
- Grazing land in Foot-hills, Alberta, (82-84) p. 12 C.
of plains south of Belly River, note on, (82-84) pp. 19-20.
on Q.C.Is., note on, (78-79) p. 43 B.
- Great Beaver Lake, Que., canoe-route, St. Maurice to Gatineau River, (70-71) p. 286.

- Great Bend, Athabasca River, seam of lignite in cliff, gas spring in river-bed, (82-74) pp. 12-13 CC.
- Great Bend, Pine River, B.C., description of, (79-80) p. 38 B.
- Great Bend country, B.C., workings in, (76-77) p. 141.
- Great Bras d'Or Lake, N.S., Millstone Grit on, (76-77) p. 448.
pre-Cambrian rocks of, (82-84) pp. 32-33 H.
- Great Britain, table of equivalent rocks of Great Britain and North America, (1863) p. 932.
note on equivalent rocks of to Lower Silurian of Canada, (1863) p. 934.
- Great Capucin River, Gaspé Peninsula, shales below Sillery with copper ore, (1863) p. 263.
copper ore discovered near, (1863) p. 733.
beds at, (80-82) p. 26 DD.
- Great Dog Portage, Kaministiquia River, Ont., length and total fall at, (1863) p. 64.
- Great Fall, Chaudière River, Que., rocks exposed at, (1863) p. 428.
- Great Fox River, Gaspé, Que., rocks of Hudson River at mouth of, Sillery and Lévis rocks, (80-82) pp. 18-19 DD.
- Great Lake George, boundary of Huronian near, (1863) p. 63.
- Great Matanne River, Que., rocks of coast, with fossils of Utica age, (80-82) pp. 28-29 DD.
- Great Meadows, Swan River, Man., (74-75) p. 33.
- Great Métis River, Gaspé, Que., note on occurrence of Anticosti Group on, (1863) p. 309.
Gaspé limestone and sandstones exposed on, (1863) p. 416.
general description of rocks on coast east of, (80-82) p. 30 DD.
- Great Michaud Cove, St. Lawrence River, Quebec Group at, (80-82) p. 27 DD.
- Great Northern bend of Montreal River, Ont., rocks at, (75-76) p. 302.
- Great Playgreen Lake, Keewatin, channels to Nelson River, Ross Island, (77-78) p. 3 CC.
- Great Pond River, Gaspé, Que., section across Hudson River Formation, synclinal form, Lévis rocks, serpentines bearing chromium and nickel, (1863) p. 270.
see also Grand Etang River.
- Great Salt Plain, N.W.T., north-west of Touchwood Hills, depressions, lakes, etc., (73-74) pp. 29-30.
- Great Slide, Quesnel, B.C., gravel beds exposed in, (75-76) p. 264.
- Great Valley, N.W.T., International boundary, 49th Parallel, percentage of iron in clay ironstone, (73-74) p. 242.
analysis of lignite from, (76-77) *see* table facing p. 472.
Lignite Tertiary of, sections in, (79-80) pp. 23-25 A.
- Great Valley, N.W.T.—*Cont.*
analyses of lignites from, (79-80) pp. 44-45 A.
analysis of clay ironstone from, (79-80) p. 48 A.
fossils from shales, (79-80) p. 25 A.
- Great Valley River, Gaspé, Que., attitude of beds along coast near, (80-82) p. 20 DD.
- Great valleys in plains, N.W.T., mode of formation of, (74-75) p. 47.
- Great Village River, N.S., vein of iron-ore between branches of, (72-73) p. 21.
east branch, fault in section on, (72-73) p. 21.
to Cooks Brook, N.S., description of ore deposits, work on ore deposits, cost and production, (72-73) p. 23.
- Great Whale River, Hudson Bay, note on occurrence of gold in veins near mouth, (77-78) p. 20 C.
value of clay for brick-making, (77-78) p. 23 C.
northern limit of white birch on, (77-78) p. 25 C.
note on former porpoise fishing at, (77-78) p. 29 C.
- Green apatite, North Burgess, Ont., (73-74) p. 115.
- Green ash, note on northern limit of, in Canada, (79-80) p. 49 C.
- Green Brook, Cascapedia Bay, Que., note on Devonian rocks of, fossiliferous beds, contact with trap beds at base, (80-82) p. 11 D.
- Green Cove, Victoria Co., N.S., rocks of, (82-84) p. 18 H.
note on barrens near, (82-84) p. 78 H.
- Green earth accompanying copper, Pewabic Lake, Michigan, analysis of, (63-66) p. 153.
- Green Head Peninsula, N.B., Laurentian rocks of, (70-71) p. 38.
- Green Head quarry, St. John. N.B., Laurentian limestones, (70-71) p. 39.
- Green Head road, N.B., section of Laurentian on, (70-71) p. 38.
- Green Island, Casco Bay, N.B., Coastal Series, rocks of, (70-71) p. 90.
- Green Island, Richmond Co., N.S., quartz-felsite with copper-ore on, (79-80) p. 5 F.
deposits of plaster on, (79-80) p. 102 F.
- Green Island River, Que., Sillery quartzites on, lower strata of, (1863) p. 260.
middle division of Potsdam, (66-69) E. p. 128, F. p. 143.
- Green Island Seigniory, Que., bog-ore deposits of, (1863) p. 684.
- Green Lake, N.W.T., reservoir for Beaver River, description of lake and surrounding country, (75-76) p. 181.
quartzite drift noted westward from, (82-84) p. 29 CC.

- Green Lake band of crystalline limestone, Que., position of, (1863) p. 44.
 in Ponsonby Tp., Que., (1863) p. 837.
 distribution of, (63-66) p. 13.
 traced by Vennor to the Lake Sam band, (79-80) p. 4 Summ.
- Green Lake trail to Carlton, Sask., description of by Prof. Macoun. (75-76) pp. 182-183.
- Green Mountain, Lake Nipigon, Ont., (66-69) E. p. 341, F. p. 377.
- Green Mountains, Vermont, note on rock masses of, (1863) p. 598.
- Green Point, Grand River, Gaspé, Que., trap pavement on beach at, (1863) pp. 441-442.
- Green Point, Mabou River, N.S., Carboniferous conglomerate at, (82-84) p. 42 H.
- Green Point, Nfld., composed of Quebec Group conglomerate, (1863) p. 878.
- Green slates, McLellans Mountain and Parks Mills, Pictou, N.S., (66-69) E. p. 5, F. p. 6.
- Greenfield, Saratoga, N.Y., granite veins of, (63-66) p. 187.
- Greenish conglomerates of Coal Measures near A. McLean's section, Pictou, N.S., (66-69) E. p. 34, F. p. 38.
- Greenish quartzite in Huronian of Woods Lake, St. John Co., N.B., (70-71) p. 64.
- Greenland plants, list of, (82-84) pp. 38-47 DD.
- GREENOUGH, W. W., result of gas trial of Albion coal in Boston by, (66-69) E. p. 435, F. p. 486.
- Greens Cove, Mascarene, Charlotte Co., N.B., note on rocks exposed at, p. 145.
- Greens Creek, Ottawa River, Ont., three escarpments, Chazy, Birdseye and Black River, and Trenton, (1863) p. 168.
 moraine of boulders crosses river above, (1863) p. 895.
 nodular masses in Leda clay, fish and plant remains, (1863) pp. 915-917.
- Greensand, *see* Glauconite.
- Greenstones of the Huronian, general note on, (1863) p. 57.
 from Lake Superior, analyses of, (1863) p. 595.
 generally diorite, traps, etc., diabase or dolerite, (1863) p. 649.
 interstratified and as dykes in area east of Thessalon, (1863) p. 843.
 character of, on Lake Superior, (63-66) p. 124.
- Greenstones of Rocky Mountains, compared with eastern examples, (82-84) p. 31 B.
- Greenstone slate, Dog River, Ont., description of, (63-66) p. 126.
- Greenwich, Kings Co., N.B., felsites of Huronian? (70-71) p. 68.
- Greenwich parish, St. Johns Co., N.B., Laurentian of, (70-71) pp. 53-54.
- Greenwood furnace, Mich., charcoal used per ton of ore, (66-69) E. p. 256, F. p. 283.
- Gregwa Brook, N.S., section of Laurentian rocks in, (76-77) p. 412.
 section of Silurian rocks in, (76-77) p. 430.
- Greiner, Tyrol, Switzerland, analysis of apatite from, (77-78), p. 11 H.
- Grenville Tp., Que., note on limestone containing wollastonite, graphite, etc., (1863) p. 35.
 general description of dolerites of, (1863) p. 38.
 the porphyritic nucleus and dykes of, (1863) p. 40.
 exposures of Potsdam sandstone in, (1863) p. 94.
 description of Chazy Formation, list of fossils in, (1863) p. 123.
 descriptions of fetid calcite of, (1863) p. 455.
 phosphatic nodules in sandstone at, (1863) p. 462.
 note on wollastonite and mode of occurrence at, (1863) p. 465.
 pyroxene rocks of, analysis of pyroxene from crystalline limestone, (1863) p. 468.
 analysis of pyrrallolite from, (1863) p. 481.
 analysis of retinitite from, (1863) p. 472.
 analysis of orthoclase from, (1863) p. 474.
 scapolite recorded in rocks of, (1863) p. 474.
 analysis of zircon from, (1863) p. 499.
 crystals of sphene reported in ledeite described from, analysis of, (1863) p. 503.
 analysis of Laurentian dolomite from, (1863) p. 593.
- intrusive rocks of Laurentian, with analyses of dolerites, syenites and orthophyre, (1863) pp. 652-655,
 note on magnetite deposit of, (1863) p. 673.
 areas of peat observed in, (1863) p. 781.
 note on deposits of plumbago in, (1863) p. 794.
 note on mica localities in, (1863) p. 795.
 occurrence of pyrrallolite in, (1863) p. 798.
 veins of cellular chert resembling French buhrstone, (1863) p. 808.
 note on syenite of district as a building stone, (1863) p. 811.
 note on serpentine marble of, (1863) pp. 823-824.
 note on serpentine of, (1863) p. 824.
 note on porphyry of, as an ornamental stone, (1863) p. 832.
 anorthosite rocks of, as ornamental stones, (1863) p. 833.
 additional details of outcrop of great dolerite dykes in, (1863) pp. 839-840.
 note on stratified clays in, fossils of, (1863) p. 917.
 series of rocks in, (76-77) p. 268.
 run of limestones in Ottawa Co. towards, (76-77) p. 291.
 rocks of, referred to, (76-77) p. 299.
 phosphatic nodules in, (76-77) p. 435.
 analysis of sphene from, (77-78) p. 28 G.
- Grenville, Augmentation of, Que., locality in, for graphite, (1863) p. 794.
 analysis of vein-graphite from, (76-77) p. 502.

- Grenville band of limestone, as traced through Petite Nation district, dividing band of gneiss, (1863) pp. 836-837.
outcrops of, in Petite Nation, Que., (63-66) p. 13.
occurrence of fossils in, (63-66) p. 18.
- Grenville Canal, note on claystone in Calciferous, (1863) p. 113.
- Grenville mica mine, character and analysis of aluminous pyroxene from, (74-75) pp. 301-302.
- Grenville Series, first mention or use of term, (1863) p. 839.
resemblance of rocks in Leeds and Lanark to the, (72-73) p. 137.
correlation with Hastings group, referred to, (77-78) p. 10 A.
- Grès Falls, on St. Maurice River, Que., Potsdam sandstone at, (1863) p. 95.
- Grey Co., Ont., note on erratic blocks of, (1863) p. 894.
for general geology see Part I., pp. 12-13.
- Gray quartzite of the lower Churchill River, (78-79) p. 19 C.
- Gray sandstones, of Middle Coal Measures, Salmon River, N.B., (72-73) p. 205.
above Coal Measures, Cumberland coal-field, N.S., (73-74) p. 166.
- Gray-band sandstone of, Rochester, N.Y., position in series, (1863) p. 310.
between Medina and Clinton formations, thickness of exposures in Ontario, (1863) pp. 313-319.
notes on exposures of, between Flamborough West and Mono Tp., Ont., (1863) p. 316.
of Ontario, for building purposes, note on, (1863) p. 814.
- Grayish-green trap, south shore Michipicoten Island, (63-66) p. 139.
- Greywacke System of Gesner, at Mouth of St. Johns River, N.B., (70-71) p. 20.
- Griffin Cove, Gaspé, Que., section across Hudson River rocks, boulders of Sillery sandstone, (1863) p. 270.
exposures of Gaspé limestones south from, (1863) p. 406.
list of Hudson River graptolites from, (80-82) p. 17 DD.
Hudson River rocks at, character of rocks and position of beds, (80-82) p. 18 DD.
- Griffin Cove River, Gaspé, Que., fossils found in lower part of Gaspé limestone series, (80-82) pp. 7-8 DD.
section across Cambro-Silurian rocks, (80-82) pp. 18-19 DD.
- Griffiths Island, Lake Huron, Ont., stone for lighthouse on, quarried at Owen Sound, (1863) p. 329.
- Griffiths mine, Ascot Tp., Que., copper- and iron-pyrites, (63-66) p. 43.
- Grimsby, Ont., clay deposits of, (1863) p. 902.
analysis of dolomite from, (76-77) p. 486.
- Grimsthorpe Tp., Ont., map of, 1 in. = 4 m., (66-69) E. p. 143, F. p. 159.
rocks of lower division of Hastings Series in, (66-69) E. p. 148, F. p. 164.
soil on granite areas of, (72-73) p. 140.
hills of white granite in, (72-73) p. 140.
- Grinding and polishing materials, millstones, grindstones and whetstones, Ontario and Quebec, (1863) pp. 807-809.
of Southern New Brunswick, (70-71) p. 233.
- Grindstone Island, Magdalen Is., Que., note on drift boulders on, (79-80) p. 9 G.
note on gypsum localities on, (79-80) p. 9 G.
details of rock exposures on shores, caves, (79-80) pp. 5-7 G.
- Grindstone quarries, at Clifton, Bay of Chaleurs. (79-80) p. 6 D.
made from gray-band sandstone of Western Ontario, (1863) pp. 316-317.
sandstones in Ontario and Quebec, suitable for localities, (1863) p. 809.
material suitable for, in Cape Breton Island, N.S., (74-75) p. 264.
manufactured in Pembroke, Ont., (76-77) p. 272.
- Grindstones, note on localities in Northern New Brunswick where manufactured, (79-80) p. 46 D.
quarries for, in Eastern New Brunswick, note on, (80-82) p. 5 D.
- Grondines Seignory, Que., Trenton Group exposed in, (1863) p. 154.
characters of the Utica and Hudson River formations, (1863) p. 202.
- Grooves, glacial, table of, with directions, in Southern New Brunswick, (77-78) pp. 5-9 EE.
- Gros Cap, Lake Superior, gneissic rocks of, referred to, (1863) p. 48.
stratified amygdaloidal trap and porphyritic trap, (1863) p. 83.
syenite of, (63-66) p. 120.
iron-ores of, description of mine, (63-66) p. 131.
trap rocks at base of, (63-66) p. 136.
analysis of hematite from, (66-69) E. p. 260, F. p. 287, and (73-74) p. 226.
note on rocks of, (76-77) p. 220.
assay of galena from, (77-78) p. 51 G.
- Gros Mâle, Gaspé, Que., note on fossils, none but Utica forms found at, (80-82) p. 22 DD.
- Gros Mâle River, Gaspé, strike of beds on coast near, graptolitic shales, list of, (80-82) p. 21 DD.
- Gros Morbe Point, near Port Daniel, Que., rocks of, (1863) p. 444.
- Gros Roches Brook, Que., shales and limestone of coast at, (80-82) p. 28 DD.
- Grosnez, Petitdegrat Is., N.S., Devonian conglomerates at, (79-80) pp. 37-38 F.
- Grosse Island, Magdalen Is., Que., position of rocks of, gypsum beds, etc., (79-80) p. 8 G.

- Grosse Isle, St. Lawrence River, Lauzon limestones, conglomerates, (66-69) E. p. 131, F. p. 146
- Grosse Rivière, Gaspé, cherty beds similar to Marsouin River beds, (80-82) p. 18 DD.
- Ground Hog River, above Lake Mattagami, Ont., description of rocks by E. B. Borron, (80-82) pp. 7-8 C.
- Ground maple, northern limit on Lake Winnipeg, (78-79) p. 33 C.
- Group, use of term in Geological Survey Reports, (80-82) p. 48.
- Groups I. to VI., Lanark Series, Archæan, (74-75) pp. 124-153.
- Grouping of rock-formations of British Columbia, (71-72) p. 54, and (74-75) p. 73.
- Grouse Creek, B.C., gold workings on, (76-77) p. 136.
- Grub, or Black Jack Gulch, B.C., gold workings on, (76-77) p. 135.
- Gryphæa calceola* var. *Nebrascensis*, Meek and Hayden, from Itasyouco River, B.C., (76-77) p. 151.
- Guano, character and composition of, (1863) p. 758.
- Guelph, Ont., height of G. T. R. at, (1863) p. 15. brown and white dolomites of vicinity of, fossils found at, (1863) p. 337. note on examination of dolomite from McDonald's quarry, (1863) p. 624. note on quarries in Guelph Formation for building stone, (1863) p. 820.
- Guelph Formation in Ontario, description and distribution of, fossils of, wood-cuts of, (1863) pp. 336-344. outcrop of lower part, probably affected by anticlines in lower rocks, (1863) p. 343. note on rocks forming mass of, (1863) p. 624. on Manitoulin Islands, (63-66) p. 176. general note on, (63-66) p. 237.
- Guelph Tp., Ont., Niagara limestone exposed at McFarlane's tavern, section of, (1863) p. 331.
- Guichon Creek, B.C., trail to Kamloops, (77-78) p. 34 B. land slips, farming, Mamit Lake, (77-78) pp. 34-35 B. Tertiary, coal-bearing rocks of, (77-78) p. 126 B.
- Guillaume River, Que., exposure of serpentine on, gold found in white garnet rock, (1863) p. 254. alluvial gold workings on, (63-66) p. 55.
- Guion Point, Bras d'Or Lake, N.S., gypsum in cliffs at, (79-80) p. 102 F.
- Gulf of Georgia, B.C., meteorological observations taken in 1878, (78-79) pp. 224, 231-232.
- Gulf of St. Lawrence, list of plants from Nelson River common to, giving their range westward, (79-80) p. 68 C.
- Gull Bay, Lake Nipigon, Ont., salt springs on west side of, (66-69) E. p. 362, F. p. 401.
- Gull Cape and Gull Cove, Anticosti, Que., section of second division Anticosti Group at, fossils, (1863) pp. 307-308.
- Gull Cape, Scatari Island, N.S., concretionary felsite, green, purple and red felsites, (77-78) p. 7 F.
- Gull Island, near Grindstone Island, Magdalen Islands, rocks exposed on, (79-80) pp. 5-6 G.
- Gull Lake, Clarendon, Ont., reddish gneisses of, (72-73) p. 148.
- Gull Lake, near Lac la Biche, N.W.T., quartzite drift at, (82-84) p. 28 CC.
- Gull Lake, Nelson River, description of, geological notes on, (78-79) pp. 26-27.
- Gull Rapids, Nelson River, description of, (78-79) p. 26 C. Huronian rocks of, (78-79) p. 27 C.
- Gull River station, C.P.R., Ont., character of gneiss near, (80-82) p. 12 C.
- Gull River, Lake Nipigon, Ont., quartz vein holding galena reported, (66-69) E. p. 360, F. p. 398.
- Gum beds, note on, in Enniskillen Tp., Ont., (1863) p. 524.
- GÜMBEL, Dr., of Bavaria, describes *Eozoön Bavaricum*, (63-66) p. 184.
- Gunboat Passage, coast of British Columbia, gray gneiss of, (74-75) p. 76.
- Gunflint Lake, International Boundary, Ont., trap hills south side of, slates, breccia, (72-73) p. 93.
- Gurlt's patent process of reducing ore to bloom iron, (66-69) E. p. 290, F. p. 320.
- Guthro Lake, Boisdale Hills, N.S., felsite and syenite intermixed, (75-76) p. 375.
- Guthro road, French Vale, N.S., gray marble, talc, etc., (75-76) p. 388.
- Guysborough Co., N.S., progress of surveys in, for 1883, (82-84) pp. 14-15. map of part of, issued in 1884 as sheets No. 22 and 24, scale, 1 in. = 1 m. (Strait of Canso and Guysborough Harbour sheets) report on geology of part of, included in, (79-80) pp. 1-125 F. the Carboniferous Rocks of, (79-80) pp. 55-62 F. character of brooks in, (79-80) p. 113 F.
- Guysborough felsites, pre-Cambrian rocks of Guysborough Co., N.S., (79-80) 9-10 F.
- Guysborough Harbour, N.S., the Devonian of, unconformable contact with Carboniferous, (79-80) p. 46 F. Carboniferous rocks of, (79-80) pp. 59-60. unconformity of formations at, (82-84) p. 15.
- Guysborough Harbour Map-sheet, issued 1884, scale, 1 in. = 1 m.
- Guysborough Road, Guysborough Co., N.S., the Devonian rocks exposed on, (79-80) p. 45 F.

Gymnocladus Canadensis, Lam, said to occur in Ontario, (79-80) p. 54 C.

Gypseous marl, Washaback Peninsula, N.S., (76-77) p. 442.
fossils in, at McKinnon Harbour, N.S., (76-77) p. 443.

Gypsiferous Formation, description of Onondaga Formation and distribution of in Ontario, (1863) pp. 345-352.
note on rocks forming, (1863) p. 625.

Gypsum, origin of, discussion on chemical origin of rocks, (1863) p. 576.

Gypsum in Nova Scotia:—

of Arichat, note on, (79-80) p. 55 F.
at Boulaceet Harbour, Cape Breton, (76-77) p. 406.
of vicinity of Cape Blomidon, (82-84) p. 24 L.

of Cape Breton Island, the Port Bevis beds, analysis, (75-76) p. 417.

on Chase Lake Brook, Cumberland, (73-74) p. 168.

in Cape Breton Island, notice of occurrence, (74-75) p. 264.

Cape Breton, Carboniferous limestone of, (76-77) pp. 442-454.

at Carlton Head, Richmond Co., blocks of, (79-80) p. 75 F.

on Floda Island, West Bay, blocks of, (79-80) pp. 56-69 F.

Inverness Co., in section south of Little Judique Harbour, (79-80) pp. 108-110 F.

in Lamey Brook, Inverness Co., (79-80) pp. 96-97 F.

of Lennox Ferry, Madame Island, (79-80) p. 124 F.

at Mackay Point, in Cape Breton, (76-77) p. 438.

of McNab Cove, Bras d'Or Lake, note on, (77-78) p. 29 F.

Nova Scotia, statistics for, to 1871, (71-72) p. 149.

O'Hanley road, Boulardrie Island, section of deposits on, (75-76) p. 409.

Point Grammo, Bras d'Or Lake, exposed at, (79-80) p. 102 F.

of Pirate Harbour, (79-80) p. 61.

River Denys, Inverness Co., on upper part of, (79-80) p. 100 F.

Saunders' Cove, Boulardrie Island, in limestone at, (75-76) p. 407 D.

Smiths Brook, St. Anne Harbour, Cape Breton Island (75-76) p. 410.

near spathic ore deposits, Sutherlands River, (73-74) p. 238.

in Toms Brook and Hay Cove, Richmond Co., loose pieces of, (77-78) p. 24 F.

of West Bay and Denys Basin, deposits exposed on islands of, (79-80) p. 102 F.

on Washaback River, character of country underlain by, (76-77) p. 442.

Gypsum in New Brunswick:—

note on deposits in southern New Brunswick, (78-79) p. 26 D.

Gypsum in New Brunswick—*Cont.*

localities of occurrence in southern part of, (70-71) p. 237.

in Albert and Westmorland Cos., (76-77) p. 380.

character of, thickness of beds, Albert and Westmorland Cos., (76-77) p. 394.

of Hillsborough, Sussex, Upham and Salisbury, (70-71) p. 232.

occurrence of, on Tobique River, (66-69) E. pp. 202-208, F. pp. 224-231.

of Tobique River, reference to descriptions of deposit, (79-80) p. 46 D.

of Wilsons Brook, Albert Co., (76-77) p. 381.

Gypsum in North-west Territories:—

on Peace River, at Rapid Bouillé, (75-76) p. 89.

reported on Salt River, Slave River, (82-84) p. 32 CC.

Gypsum in Ontario:—

general note on deposits of, in rocks of Ontario, (1863) pp. 459, 762, 763.

output of Ontario quarries, value of material, (1863) p. 763.

of Onondaga Formation, localities of occurrence in Ontario. (1863) pp. 347-352.

in Ontario brines, note on, (74-75) p. 271.

Goderich, boring in, (76-77) p. 229.

small per centage in salt, of Goderich, (63-66) p. 270.

of east end of Manitoulin Island, (63-66) p. 178.

well at Sydenham, Brant Co., through, (63-66) p. 251.

Gypsum deposits in Quebec:—

of Magdalen Islands, Que., note on shipments from, localities of occurrence, (79-80) p. 9 G.

of Magdalen Islands and especially Amherst Island, (79-80) p. 4 G.

Gypsum quarries operated in Cape Breton Island, (82-84) p. 98 H.

Gypsum deposited from brines, Syracuse solar salt works, (66-69) E. 2. 228, F. p. 252.

Gypsum banks, Moose River, description of deposits, (75-76) p. 321.

Gypsum-bearing rocks of Grindstone and Alright Islands, Magdalen Islands, Que., (79-80) pp. 6-7 G.

of Smith Island, Cape Breton Island, N.S., (82-84) p. 47 H.

Gypsum beds, shape and structure, discussion on causes of sinking of overlying beds, (1863) pp. 347-352.

HAANEL, PROF., analyses of lignite from North Saskatchewan, North Pembina and Belly rivers, (76-77) table facing p. 472.

analysis of coal from North Pembina River, N.W.T., (79-80) p. 135 B.

Hadley Cove, Guysborough Harbour, N.S., Devonian rocks of, (79-80) p. 46 F.

- Hæmatite, *see* Hematite, (80-82) p. 7 H.
- Hagerman Tp., Ont., (76-77) pp. 204-205.
- Ha-ha Bay, Que., thickness of marine clays near, (1863) p. 923.
- Haida Indians of Queen Charlotte Islands, report on, by G. M. Dawson, (78-79) pp. 103-175 B.
- physical peculiarities and dress, (78-79) pp. 104-109 B.
- food used by, (78-79) pp. 109-115 B.
- social organization of, (78-79) pp. 115-121 B.
- notes on religion and medicine of, (78-79) pp. 121-125 B.
- the potlatch or distribution of property, (78-79) p. 125 B.
- dancing ceremonies among, (78-79) pp. 127-129 B.
- note on gambling among, (78-79) p. 129 B.
- social customs of, (78-79) pp. 129-137 B.
- arts and architecture of, (78-79) pp. 137-149 B.
- traditions and folk-lore of, (78-79) pp. 149-154 B.
- first contact with Europeans, early fur trade, (78-79) pp. 154-161 B.
- account of the villages of, (78-79) pp. 161-171 B.
- estimate of number at different villages, with total for nation, (78-79) p. 173 B.
- ultimate destiny of, (78-79) p. 174 B.
- vocabulary of, obtained by G. M. Dawson, (78-79) pp. 177-189 B.
- Haida account of first knowledge of Europeans, (78-79) p. 160 B.
- Haida nation, homogeneity of, (78-79) p. 103 B.
- territory occupied by, (78-79) p. 104 B.
- migrations of, from Queen Charlotte Islands, (78-79) p. 104 B.
- Haimeophyllum ordinatum*, Billings, wood-cut of, (1863) p. 365.
- Hair-cutting Lake, Que., Laurentian rocks of, (70-71) p. 289.
- sand plains of, (70-71) p. 300.
- Hair-cutting River, tributary of St. Maurice River, Que., canoe-route to Gatineau River, (70-71) p. 286.
- Hairy Lake, Echamamich River, Keewatin, (77-78) p. 4 CC.
- Haldane's mine, Wakefield, Que., note on, situation of, progress of work on, (80-82) pp. 8, 13-14 GG.
- note on, total output of, (82-84) pp. 18-19 L.
- Haldimand anticline, Gaspé, Que., position of axis near Two-ridged Mountain, (1863) p. 882.
- Haldimand Co., Ont., list of fossils in Corniferous Formation of, (1863) pp. 369-370.
- for general geology of, *see* Part I., p. 13.
- Haldimandtown, Gaspé, petroleum reported rising through mud at, (1863) p. 789.
- Haley farm, Mechanic Settlement, N.B., albertite in conglomerate on, (78-79) p. 17 D.
- Half-way Brook, Victoria Co., N.S., rocks of, (82-84) p. 18 H.
- Haliburton Co., Ont., analysis of magnetite from Lutterworth Tp., lots 5 and 15, R. VI. and VII., (78-79) pp. 15-16 H.
- Haliburton seam, Montreal and Pictou area, Pictou, N.S., (66-69) E. p. 105, F. p. 118.
- Halibut, note on fishing banks of Queen Charlotte Is., (78-79) p. 44 B.
- Halibut fishery of Haida Indians of Q.C.Is., note on, (78-79) p. 109 B.
- Halifax copper mine, gold in veinstone, (63-66) p. 86.
- Halifax gas works, practical trial of Albion mines coal in, (66-69) E. p. 435, F. p. 486.
- Halifax Tp., Que., copper localities in, (63-66) p. 318.
- note on copper ores in, localities, (1863) p. 724.
- HALL, JAMES, on fossiliferous limestone of Keewenaw Peninsula, Mich., (66-69) E. p. 475, F. p. 529.
- referred to, (76-77) pp. 204-205.
- Hallowell, Ont., mineral springs in, reference to, analysis of water from, (1863) pp. 537-538.
- analysis of mineral water from, (Hubbs and McDowell), (1863) p. 547.
- analysis of mineral water from, (63-66) p. 272.
- Halton Co., well near Milton, (63-66) p. 252.
- for general geology of, *see* Part I., p. 13.
- Halysites catenulatus*, Linnæus, wood-cut of, (1863) p. 305.
- Ham Mountain, Que., relation of to serpentine, (1863) p. 253.
- diorite rocks of, (1863) p. 254.
- Ham Tp., Que., band of dolomite with copper-ore in, (1863) p. 254.
- analysis of diallage rocks of, (1863) p. 469.
- workable deposits of chromic iron reported in, (1863) p. 504.
- analysis of massive serpentine of, (1863) p. 472.
- copper-ores of, Ham mine, (1863) p. 733.
- deposits of chromic iron, description of, (1863) p. 749.
- chromic iron-ore of, (63-66) p. 44.
- copper localities in, (63-66) p. 317.
- Hamburg, Ont., height of G. T. R. at, (1863) p. 15.
- HAMILTON, H. E., work by, as assistant to A. P. Low, 1883, (82-84) pp. 5-12 F.
- Hamilton, Ont., section of Medina exposed near, (1863) p. 312.
- section of Clinton strata at, (1863) p. 313.
- building stone obtained from gray-band sandstone, (1863) p. 316.
- section of Niagara Formation south of, (1863) pp. 323-324.
- analysis of mineral water from Young's spring, (1863) p. 538.

- Hamilton, Ont.—*Cont.*
 reference to quarry in gray-band sandstone near, (1863) p. 816.
 clay deposits of, (1863) p. 902.
- Hamilton Formation or group, general section of, in New York, (1863) p. 380-382.
 collection of fossils presented by Hector Currie, noted, (80-82) p. 23.
 in Canada, distribution and characters, wood-cuts of fossils of, sections of strata, (1863) pp. 382-387.
 unhardened clay beds of, exposed at Winder, Ont., fossils in, (1863) p. 385.
 oil wells in, note on strata bored through, in Enniskillen Tp., Ont., (1863) pp. 386-387.
 resemblances of beds to beds in Utica and Hudson River formations, (1863) p. 627.
 note on outlining of, on map of Canada, (1863) p. 19 Atlas.
 black shales, localities of occurrence, (63-66) p. 242.
 thickness from borings in, (63-66) p. 245.
 total thickness at Kingstone's mills, (63-66) p. 247.
 black bituminous shales not petroliferous, (63-66) p. 254.
 beds which contain petroleum in, (63-66) p. 255.
 general resumé of, (66-69) E. p. 216, F. p. 238.
- Hamilton Inlet, Labrador, length of, (82-84) p. 11 DD.
 specimen of labradorite from, (82-84) p. 12 DD.
 copper-pyrites in schists of Indian Island, (82-84) p. 12 DD.
- Hamilton Tp., Bonaventure Co., Que., breadth of Bonaventure Formation in, (1863) p. 447.
- Hamilton's farm, Argenteuil, Que., width of limestone trough on, (1863) p. 44.
- Hamiltonville, Hawkesbury, Ont., Chazy Formation at, note on distribution of, (1863) p. 124.
 the escarpment of the Trenton near, (1863) p. 171.
- Hammers used by Haida Indians, (78-79) p. 143 B.
- Hammond, N.Y., analysis of loxoclast from, (1863) p. 475.
- Hammond Parish, N.B., gravel ridges of, (77-78) p. 14 EE.
- Hammond River, Kings Co., N.B., Huronian rocks on, (70-71) p. 64.
 outcrops of St. John Group on, (70-71) p. 139.
 the Lower Carboniferous of, (70-71) p. 208.
 galena in small quantities at Upham, (70-71) p. 228.
 exposures of felsite and petrosilex, group of pre-Silurian, (77-78) pp. 7-8 DD.
 pre-Silurian rocks on, (77-78) p. 8 DD.
 forming northern boundary of pre-Silurian rocks in part of Kings Co., (77-78) p. 13 DD.
- Hampstead, Queens Co., N.B., syenites of, pebbles in, (70-71) p. 33.
 granites of Nerepis Hills at Fannen Lake, (70-71) p. 189.
 pre-Carboniferous rocks of the dark argillite series, (70-71) p. 194.
 Upper series of pre-Carboniferous, St. John River, pale argillite series, (70-71) p. 199.
 granite quarries, (70-71) p. 234.
 crystals of reddish heulandite, (70-71) p. 259.
 Devonian rocks referred to, (75-76) p. 368.
- Hampstead Parish, Queens Co., N.B., Laurentian of, (70-71) pp. 53-54.
 Lower Carboniferous exposed on outlet of Washademoak Lake, (70-71) p. 212.
- Hancock, Michigan, stamp works at, (63-66) pp. 161-162.
- Hand Hills, Alta., discovery of Miocene by J. B. Tyrrell at, note on, (82-84) p. 111 C.
 Miocene conglomerates, note on origin of, quartzite shingle, (82-84) p. 143 C.
- Hanford Brook, St. John Co., N.B., rocks exposed on, (70-71) p. 64.
 section of schistose group in pre-Silurian, in St. Martins Tp., (77-78) pp. 18-19.
 section of primordial beds on, (77-78) p. 31 DD.
- Hanging wall, Quincy mine, Michigan, description of, (63-66) p. 152.
- HANKIN, MR., estimate of Indian population on Skeena River, B.C., (79-80) p. 20 B.
 specimens of coal from Watsonkwa River received from, (79-80) p. 105 B.
 specimens of coal from Watsonkwa River, B.C., sent by, analysis of, (78-79) p. 14 H.
- HANNA, CAPT., survey of part of West Coast by, in 1786, (78-79) p. 9 B.
- Hannah Lake, Nipigon River, Ont., position of, (66-69) E. p. 337, F. p. 373.
 drift sandstone on, (66-69) E. p. 339, F. p. 374.
- Hanson's mill, Lepreau Harbour, N.B., Devonian rocks exposed near, (70-71) p. 177.
- Hanson Stream, St. John Co., N.B., hills of granite near, (70-71) p. 47.
- Hapalogaster inermis*, specimens of, from Q.C.Is., (78-79) p. 211 B.
- Harbour-by-chance, N.B., conglomerates and green diorites, schists near, (70-71) p. 96.
- Harbour de l'Outre, Campo Bello Island, N.B., rocks at, (70-71) p. 132.
- Harbour Island, near Mingan Islands, Que., Calciferous Formation on, (1863) p. 119.
- Harbour seam, International mine, N.S., thickness and quality of, (72-73) p. 257.
 description and analysis of, (72-73) p. 290.
 at Little Glace Bay mines, N.S., thickness and admiralty trials, (72-73) p. 260.
 section on coast of Glace Bay, N.S., (74-75) p. 214.
 location of various sections published, analysis of coal from, (74-75) p. 221.

- Harbours, on Queen Charlotte Is., sketches of, on 2 knots = 1 in., (78-79) facing p. 15 B. in northern part Cape Breton Co., N.S., difficulty of maintaining, (80-82) of northern coast of British Columbia, note on, (79-80) p. 4 B. in James Bay, note on, (79-80) p. 29 C.
- Harcourt Lake, N.B., gravel ridge pierced by stream, (77-78) p. 18 EE.
- Hard maple, note on northern limit of, in Canada, (79-80) p. 51 C.
- Hardening of building stones, (63-66) p. 281.
- Hardings Point, St. John River, N.B., Lower Kingston rocks near, (70-71) p. 123.
- Hardingville, N.B., shales and flags of Primordial rocks at, (77-78) p. 30 DD.
- Hardness of river waters, comparison of Ottawa and St. Lawrence with rivers in England, (78-79) p. 12 C.
- Hardscrabble Settlement, Queens Co., N.B., syenites and diorites east of, (70-71) p. 53. Upper Silurian rocks in, (70-71) p. 168.
- Hardwood Creek, Oromocto River, N.B., seams of coal on, (72-73) p. 220.
- Hardwood forests on ridges in valley of Southwest Miramichi River, N.B., (80-82) p. 21 D.
- Hardwood Island, mouth of Passamaquoddy Bay, N.B., rocks of, probable age, (70-71) p. 91. Kingston Group, (70-71) p. 128.
- Hardy Lake, Cape Breton Co., N.S., bluish felsite of, (77-78) p. 5 F.
- Hardy Lake, near Gabarus Bay, N.S., raised beach at, (77-78) p. 27 F.
- Hare Brook, N.S., Carboniferous outliers in, p. 440.
- Harewood mine, Nanaimo, B.C., workings at, (76-77) p. 179. illustration showing first openings on seam, (76-77) facing p. 186. coal shipments for 1876 from, (76-77) p. 180.
- HARMON, D. W., travels in North America referred to, (75-76) p. 30.
- Harpes antiquatus*, Billings, wood-cut of part of, (1863) p. 133.
- Harriet Harbour, Skincuttle Inlet, Q.C.Is., analysis of magnetic iron-ore from, (78-79) pp. 14-15 H. general description of, (78-79) p. 18 B. description of magnetite deposit at, (78-79) p. 54 B. limestone bands and ash rocks at, (78-79) p. 52 B.
- HARRINGTON, B. J.:—
first report on work in laboratory by, (72-73) pp. 5-7.
notes on iron-ore, Londonderry, N.S., by, (72-73) pp. 28-29.
note on iron-ores from Vancouver Island and Q.C.Is., B.C., by, (72-73) pp. 81-82.
note on marble quarries, Barrie, Ont., by, (72-73) p. 154.
- HARRINGTON, B. J.—*Cont.*
description of coal from Sydney mines, N.S., by, (72-73) p. 244.
note on quality of coal from Reserve mine, N.S., by, (72-73) p. 266.
description of Gowen coal of Nova Scotia, by, (72-73) p. 283.
notes on brick clay from Fort Garry, Man., by, (72-73) pp. 296-299.
summary of work done during year in laboratory, by, (73-74) pp. 6-8.
examination of trap dykes at Montreal, by, (73-74) p. 8.
memorandum on western coal, iron-ore, etc., Saskatchewan River, by, (73-74) pp. 63-65.
notes on the iron-ores of Canada and their development, by, (73-74) pp. 192-259.
examination of hematite from Dalhousie mine, Ont., by, (73-74) p. 225.
summary of investigations in laboratory, by, (74-75) pp. 13-14.
notes on Canadian minerals and rocks, by, (74-75) pp. 301-312.
work for 1875, publication of report, descriptive catalogue for Philadelphia by, (75-76) p. 5.
obituary notice of Sir Wm. Logan by, (75-76) pp. 8-21.
chemical investigations by, for year 76-77, referred to, (76-77) p. 6.
referred to, (76-77) pp. 120, 124, 129.
report by, on rocks and minerals analysed, (76-77) p. 465-488.
work done by, during 1877-78, (77-78) p. 8.
report on minerals, of apatite-bearing veins, Ottawa Co., Que., by, (77-78) pp. 1-37 G.
report on analyses of miscellaneous minerals from Canada by, (77-78) pp. 38-52 G.
note re resignation of, (78-79) p. 6.
analyses by:—
aluminous pyroxene from Grenville mica mine, (74-75) pp. 302-303.
analcite from Montreal, (77-78) p. 45 G.
ankerite from Londonderry, N.S., (73-74) p. 220.
bog-ore from L'Islet Forge, Que., (73-74) p. 236.
bog-ore from Gillis property, Vaudreuil, Que., (73-74) p. 236.
brine and crystalline rocks of Vancouver Island, (72-73) pp. 82-83.
calcite (manganiferous) from Cumberland seam, Joggins, N.S., (77-78) p. 38 G.
clay ironstone from Dirt Hills, N.W.T., (73-74) p. 241.
clay ironstone from Island Point, C.B., (76-77) p. 450.
chlorite from Templeton, Que., (77-78) p. 34 G.
chromiferous serpentine from Bolton and Melbourne, Que., (74-75) p. 304.
coal from Big Seam, North Saskatchewan River, (79-80) p. 135 B.
coal from Chilliwack River, B.C., (73-74) p. 99.
coal from Coal Gully, Nicola River, B.C., (77-78) p. 125 B.

HARRINGTON, B. J., analyses by—*Cont.*

- coal from west coast of B.C., (72-73) pp. 76-82.
 coal from Salmon River and McAdam Lake, N.S., (76-77) p. 454.
 coal from Styles mine, N.S., (74-75) p. 13.
 coal from Sydney coal-fields, N.S., (72-73) p. 290.
 dolomite from Rigaud Tp., Que., (74-75) p. 311.
 diorite from Montreal, (77-78) p. 44 G.
 economic minerals of Cape Breton, N.S., (76-77) p. 449.
 hematite from lot 30, R. VI., Elmsley, Ont., (73-74) p. 225.
 hematite from Peter Totten's lot, Acadia mines, Londonderry, N.S., (73-74) p. 224.
 hematite from Pictou, N.S., (73-74) p. 223.
 hematite from Whykokomagh mine, N.S., (73-74) p. 225.
 hydraulic limestone from Wickham, Que., (74-75) p. 311.
 iron-ores from Frontenac, Leeds and Lanark, Ont., (71-72) p. 123.
 lignite from British Columbia and North west Territory, (77-78) pp. 48-49 G.
 lignite from Hat Creek, B.C., (77-78) p. 121 B.
 limonite from Acadia mines, Londonderry, N.S., (73-74) pp. 232-233.
 limonite from Fraser Saddler area, Pictou, N.S., (73-74) p. 233.
 magnesian ophiolite from Melbourne Tp., Que., (74-75) p. 309.
 magnetite from Bristol iron mines, Que., (73-74) p. 108.
 magnetite from Christies Lake mine, Que., (73-74) p. 210.
 magnetite from Cherry Bluff, Kamloops, B.C., (77-78) p. 46 G.
 magnetite from Inverness Tp., N.S., (73-74) p. 210.
 magnetite from Nictaux, N.S., (73-74) p. 210.
 natrolite from Montreal Mt., (74-75) p. 303.
 prehnite from Templeton, Que., (77-78) p. 34 G.
 black pyroxene from Templeton, Que., (77-78) p. 17 G.
 phroxene and urallite from Templeton, Que., (77-78) p. 21 G.
 pyrrhotite from Elizabethtown, Ont., (74-75) p. 306.
 red olivine from Ste. Annes, Que., (77-78) p. 39 G.
 serpentine from Abitibi, green mineral from Carboniferous conglomerate of New Brunswick, (72-73) pp. 399-300.
 slate carved by Haida Indians, (72-73) pp. 61-62.
 sodalite from Montreal Mt., (74-75) p. 303.
 spathic iron-ore from Flint Is., Hudson Bay, (77-78) p. 47 G.

HARRINGTON, B. J., analyses by—*Cont.*

- sphene from Grenville, Que., (77-78) p. 28 G.
 titanic iron-ores from Brome and Sutton Tps., Que., (73-74) p. 228.
 assays by:—
 of gold and silver ores from Cariboo, B.C., (77-78) p. 49 G.
 of gold ores from Marmora and Levant Tps., Ont., table of, (71-72) p. 141.
 of gold and silver ores from southern interior of British Columbia, Ontario and Quebec, (77-78) pp. 50-52 G.
 of iron-ore from Peter Totten's lot, Londonderry, N.S., (72-73) p. 22.
 of silver-ore from near Eureka mine, Hope, B.C., results of, (73-74) p. 7.
 Harrington Cove, Bay of Chaleurs, small area of Bonaventure conglomerate in, (1863) p. 446.
 Harrington Tp., Argenteuil, Que., deposit of marl in, (1863) p. 766.
 peat deposits noted in, (1863) p. 781.
 dolerite dykes traced in, (1863) p. 840.
 note on stratified clays in, (1863) p. 917.
 Harris Brook, N.S., Laurentian rocks of, (76-77) p. 424.
 coal of, (76-77) p. 454.
 Harris or Folly Island, Passamaquoddy Bay, N.B., Upper Silurian rocks on, (70-71) p. 162.
 Harris mine, Wakefield, Que., output, location of, (82-84) p. 19 L.
 Harrisburg, Ont., thickness of clay at, (1863) p. 903.
 HARRISON, PROF., barometric readings furnished Mr. Chalmers, reference to, (82-84) p. 3 GG.
 Harrison River, B.C., advanced stage of vegetation at, (75-76) p. 114.
 Harrison River valley, B.C., reported traces of silver in, (82-84) p. 38 B.
 Harrowgate Springs, England, changes in composition of water of, p. 279.
 Harry Lyon road, Queens Co., N.B., Huronian rocks on, (70-71) p. 67.
 Hartford mine, Capelton, Que., assay of tetrahedrite from, (77-78) p. 52 G.
 Hartland, N.B., sections of terrace in valley of St. John River, (82-84) p. 29 GG.
 Hartland Ferry, St. John River, N.B., Silurian rocks of, (82-84) p. 8 G.
 HARTLEY, E., work in 1868 on east side East River, Pictou, N.S., (66-69) E. p. 4, F. p. 4.
 report on main seam east of East River, N.S., referred to, (66-69) E. p. 50, F. p. 55.
 report on Pictou coal-field, west of East River, N.S., (66-69) E. pp. 54-107, F. pp. 61-121.
 field-work in 1868 and report on same, (66-69) E. p. 55, F. p. 61.
 report on the coals and iron-ores of Pictou, N.S., by, (66-69) E. pp. 365-447, F. pp. 405-484.

HARTLEY, E.—*Cont.*

- first report by, on samples of coal from Springhill, (66-69) E. pp. 443-447, F. pp. 495-500.
- analysis of coal from Black seam, Springhill, by, (66-69) E. p. 444, F. p. 497.
- work in Pictou coal-fields in 1868, by, (66-69) p. 8 Summ.
- mineral statistics for Nova Scotia and New Brunswick undertaken by, copies of circulars sent, (69-70) E. pp. 12-14 Summ.
- note by A. R. C. Selwyn, as to illness and death of, (70-71) p. 2.
- suggestions on smoke consumption by, (70-71) p. 3.
- work in 1870 by, (70-71) pp. 2-5.
- correspondence *re* Albert mine, Hillsborough, N.B., by, (70-71) p. 5.
- correspondence about New Campbelltown fault in Cape Breton Island by, (70-71) p. 5.
- details of Sydney coal mines in Robb's report, (72-73) p. 239.
- experiments on Pictou coal, note on, (66-69) p. 5 Summ.
- analyses by:—
- of coals made in 1869 by, (66-69) E. p. 365, F. p. 405.
 - of coal from McBean's 8-foot seam, Pictou, N.S., (66-69) E. pp. 389-390, F. pp. 431-432.
 - of coal from Marsh pit, Marsh colliery, N.S., (66-69) E. p. 390, F. p. 433.
 - of coal from Crown Pottery pit, Richardsonseam, (66-69) E. p. 393, F. p. 436.
 - oil-coal from Haliburton's pit, Marsh Brook, N.S., (66-69) E. p. 394, F. pp. 437-438.
- HARTT, C. F., earlier labours of, in St. John, N.B., (70-71) p. 22.
- synopsis of Devonian plants and fossils of New Brunswick in report to Provincial Government by, (70-71) p. 26.
- fossils of St. John Group recognized and described by, (70-71) p. 134.
- Hartt's mills, Oromocto River, N.B., sandstones of Middle Carboniferous at, (72-73) p. 220.
- Harvey, N.B., analysis of green mineral from Lower Carboniferous conglomerate at, (72-73) p. 300.
- Harvey Hill mine, Leeds, Que., rocks of Quebec Group at, (1863) pp. 256-257.
- crystals of quartz found at, (1863) p. 500.
- reference to ores at, (1863) p. 711.
- description of veins, section of beds, plan of mine, sections, description of shafts, (1863) pp. 724-729.
- ore shipped from, 1858-1861, (1863) p. 729.
- molybdenite reported at, (1863) p. 755.
- description of, referred to, (63-66) p. 33.
- extent of workings at, (63-66) p. 34.
- and east shore Lake Superior compared, (63-66) p. 145.
- statistics for 1869-71, (71-72) p. 148.
- notes on situation of, progress of work in, character of vein, (80-82) p. 1 GG.
- Harvey settlement, York Co., N.B., coal report, probable horizon, (66-69) E. p. 181, F. p. 200.
- Harvey settlement, Manners Sutton, N.B., Lower Carboniferous of, (70-71) p. 213, and (72-73) p. 184.
- thin beds of yellowish grit, at the top of Lower Carboniferous, (72-73) p. 186.
- occurrence of fluor at, (72-73) p. 229.
- Harvey Station, York, N.B., section of felspathic rocks and Lower Carboniferous at, (72-73) p. 184.
- Harvey Creek, B.C., gold workings on, (76-77) p. 136.
- Harvey's pit, Acton, Que., extent of workings at, (1863) p. 716.
- Harvey's process of reducing ore to bloom iron, (66-69) E. p. 290, F. p. 320.
- Harwich, Kent Co., Ont., record of wells at, (63-66) p. 245.
- Harwood Island, Gulf of Georgia, B.C., deposits of sandy clay on, (78-79) p. 98 B.
- Haskell Hill, Ascot Tp., Que., band of slate with copper-ore on, (1863) p. 252.
- Hastings, N.S., Devonian rocks in vicinity of, on Victoria and Horton Lake roads, (79-80) p. 50 F.
- Hastings Co., Ont., petition from residents to provincial secretary, (63-66) p. 9.
- an investigation of iron-ores of instituted, (63-66) p. 10.
- Trenton Group, description referred to, (63-66) p. 91.
- association of rocks in, (63-66) p. 96.
- dip and strike of Laurentian rocks in northern part of, (63-66) p. 97.
- previous references to economic minerals in, (63-66) p. 97.
- magnetic iron-ores of, localities, (63-66) pp. 98-100.
- localities for hematite ore in, (63-66) pp. 100-103.
- first exploration for galena in, (63-66) p. 103.
- galena localities in, (63-66) pp. 103-105.
- iron-ore, productive and non-productive, localities in, (63-66) p. 103.
- copper-ores, mode of occurrence, localities of, (63-66) p. 106.
- galena localities not yet examined, in northern part of, (63-66) p. 105.
- iron-pyrites, localities of, (63-66) p. 106.
- marble quarried for building stone in, localities, (63-66) p. 107.
- manufacture of iron and export of iron-ore, (63-66) pp. 107-113.
- lithographic stone in, (63-66) p. 107.
- map of northern part of, scale 4 in. = 1 m., (66-69) E. p. 143, F. p. 159.
- report by H. G. Vennor on economic resources of, (66-69) E. pp. 143-171, F. pp. 159-190.
- Lower Silurian limestones of, (66-69) E. p. 159, F. p. 177.
- economic minerals of northern part of, (66-69) E. pp. 160-171, F. pp. 178-190.

Hastings Co., Ont.—*Cont.*

- note on occurrence of bismuth in Tudor, (66-69) E. p. 171, F. p. 190.
 summary of work by H. G. Vennor in 1871, (71-72) p. 121.
 geological position of gold-bearing rocks of, with assays, (71-72) pp. 129-140.
 blotched diorite of, referred to, (76-77) p. 204.
 map of, referred to, (76-77) p. 255.
 work in, by H. G. Vennor, (68-69) p. 5 Summ.
 list of plants in, by Prof. J. Macoun, (80-82) 19-28 C.
 assay of rock from, for gold and silver, (80-82) p. 14 H.
for general geology see also Part I., p. 13.
- Hastings road, Ont., traverse shown on 4-mile map, (66-69) E. p. 145, F. p. 159.
 three miles north of Madoc, granitic breccia, (66-69) E. p. 147, F. p. 163.
 rocks of division A, in Dungannon and Herschel Tps., (66-69) E. p. 148, F. p. 164.
 samples of iron-ore from, at London exhibition of 1862, (66-69) E. p. 152, F. p. 169.
- Hastings Series, conglomerates of, compared to Huronian by T. Macfarlane, foot note by W. E. Logan classing them as upper part of Lower Laurentian, (63-66) p. 93.
 section prepared by H. G. Vennor, (66-69) E. p. 144, F. p. 160.
 geographical distribution, undulations, (66-69) E. p. 145, F. p. 161.
 breccia with granitic base, (66-69) E. p. 146, F. p. 163.
 Div. A, lower division, (66-69) E. pp. 146-149, F. pp. 162-169.
 Div. A, rocks of upper part of, (66-69) E. p. 148, F. p. 164.
 Div. B, middle division, (66-69) E. pp. 149-153, F. pp. 166-169.
 Div. C, distribution in Hastings, (66-69) E. pp. 153-159, F. pp. 170-177.
 Div. C1, dolomites of lower part, (66-69) E. p. 154, F. p. 171.
 Div. C1, crystalline limestone associated with dolomite, (66-69) E. p. 154, F. p. 171.
 Div. C2, mica slates, distribution of, (66-69) E. p. 155, F. p. 172.
 Div. C1, marble, specimen of, sent to Paris, 1867, (66-69) E. p. 155, F. p. 172.
 Div. C3 and C4, slates of, distribution, (66-69) E. p. 156, F. p. 173.
 Div. C2 and C3, conglomerates of, (66-69) E. p. 157, F. p. 174.
 Div. C4, thickness in Madoc, quartzites, (66-69) E. p. 158, F. p. 175.
 Div. C5, varieties of rocks, *Eozoon Canadense*, (66-69) E. p. 158, F. p. 175.
 three divisions, metals of, (68-69) p. 5, Summ.
 position and extent of, (68-69) p. 5, Summ.
 Div. B, similarity to Div. II, Lanark, dolomite and slate groups, (74-75) p. 130.
 and Levant slate series, contemporaneous, (74-75) p. 133.
 found in Miller Tp., Renfrew, Ont., (76-77) p. 251.

Hastings Series—*Cont.*

- position of, (76-77) p. 254.
 compared with other rocks, (76-77) p. 254.
 labradorite in, (76-77) p. 256.
 name of no significance, (76-77) p. 256.
 identity of, to Renfrew rocks, (76-77) p. 263.
 troughs of, (76-77) p. 275.
 correlated with Grenville Series, reference to, (77-78) p. 10 A.
- Hat Creek, B.C., gold on, (76-77) p. 143.
 description of, (77-78) pp. 12-13 B.
 analysis of lignite from, (77-78) pp. 47-48 G.
 description of rocks on, (77-78) pp. 91-92 B.
 Tertiary rocks of, with section, (77-78) pp. 120-121 B.
 diagrammatic section down valley of, (77-78) facing page 174 B
- Hatches Brook, Charlotte Co., N.B., hill of gneisses on east side of, (70-71) p. 195.
- Hatchet Lake, N.W.T., on watershed, two outlets in, (80-82) p. 5.
- Hatley Tp., Que., dolomite replaced by diorite in, (63-66) p. 40.
 copper localities of, (63-66) pp. 42-43, and (63-66) p. 305.
 assay of ferruginous quartz for gold and silver, from, (76-77) p. 481.
- Hats of basket-work made by Haida Indians, (78-79) p. 137 B.
- Hatville, Ont., exposures of Trenton limestone at, (1863) p. 171.
- Hatty Lake, B.C., character of country near, (76-77) p. 30.
 rocks near, (76-77) p. 64.
- Havre-au-Bouche, Strait of Canso, N.S., Devonian strata exposed on shore, order of, (79-80) pp. 44-45 F.
 Carboniferous rocks in vicinity of, (79-80) p. 61 F.
- HAWES, MR., analysis of diorite from Compton, New Haven, by, (77-78) p. 44 G.
- Hawkes Bay, Nfld., rocks of, representative of Beauharnois Cambrian, (1863) p. 293.
 fault in rocks of, attitude of strata at, (1863) p. 877.
- Hawkesbury Harbour, N.S., section of Carboniferous rocks at, (79-80) pp. 84-85 F.
- Hawkesbury, N.S., section of strata at Emery's wharf, north of, (79-80) pp. 76-77 F.
 black *Naiadites* shales on St. Peter's road, sandstones near Little River, (79-80) p. 92 F.
- Hawkesbury, Ont., width of Chazy Formation in, (1863) p. 126.
 phosphatic nodules at, analysis of, (1863) p. 462.
 axinite recorded as found at, (1863) p. 493.
 partial analysis of mineral water from, (1863) p. 538.
 sandstone quarried in vicinity of, (1863) p. 814.

- Hawkesbury Tp., Ont., the Chazy Formation in limestones and sandstones of, (1863) p. 124.
the Trenton groups in, (1863) p. 171.
limestone in, for building purposes, (1863) p. 816.
- Hawkeye Co.'s gold mine, Marmora, Ont., shafts sunk at, (71-72) p. 139.
- Hay Cove, Cape Breton Island, N.S., outcrop of felsites in, (77-78) p. 10 F.
- Hay Island, York Factory, showing subsidence of Hudson Bay, (77-78) p. 25 CC.
- Hay Island, Lake of the Woods, Ont., gold-bearing quartz assayed, results of, (80-82) p. 15 C.
description of gold locations on, (82-84) pp. 8-9 and 11-12 K.
- Hay Lake north of Dunvegan, N.W.T., description of, (79-80) p. 58 B.
- Hay River, Inverness Co., N.S., sandstone and slate of Lower Carboniferous near, (82-84) p. 42 H.
- Haycock iron mines, Hull, Que., flour-spar associated with iron-ore at, (73-74) p. 146.
hematite in gneiss at, (73-74) p. 213.
- Haycock iron mine, Templeton, Que., barytes with hematite, etc., at, (73-74) p. 220.
table of analyses of hematite from, (73-74) p. 226.
- Haycock mines, Templeton and Hull, Que., cost of labour and mining of ore, (73-74) pp. 242-244.
ore raised, works erected at, (73-74) p. 258.
referred to, (76-77) p. 296.
Tamo Lake, Portland Tp., Que., apatite properties and workings at, (82-84) pp. 16-17 J.
- HAYES, DR., analyses by, (76-77) pp. 450-451.
- Hayes River, Nelson River valley, plan and survey of mouth of, description of, (77-78) p. 13 CC.
general character of, islands in, limestone *débris*, gneiss on, (77-78) p. 8 CC.
the clay deposits of lower part of, (77-78) p. 24 CC.
evidence of subsidence of Hudson Bay at mouth of, (77-78) p. 25 CC.
average season of navigation at mouth of, (79-80) p. 37 C.
list of plants collected in 1880, along, (79-80) pp. 59-69 C.
analysis of water of, (79-80) p. 77 C.
table showing opening and closing of navigation at York Factory from 1828 to 1880, (79-80) pp. 82-83 C.
- HAYNES, J. L., on quality of Londonderry ore, (72-73) p. 27.
- Haynes House, B.C., situation of, (82-84) p. 15 B.
- Haynesville, Queensbury Parish, York Co., N.B., rocks of, (82-84) p. 21 G.
granites and carbonaceous slates of, (66-69) E. p. 195, F. p. 216.
- Haynesville road to Woodstock, N.B., granite bands on, (70-71) p. 246.
- HAYES, DR. A. A., analysis of specimen of iron-ore from South Crosby, (66-69) E. p. 258, F. p. 285.
- Hays Hill, Upper Queensbury, N.B., southern end of kame, (82-84) p. 23 GG.
- Hazeltines Creek, B.C., placers of, (76-77) p. 137.
- Hazelton, B.C., description of valley and mountain ranges near, (79-80) p. 16 B.
- Hazen's mill, Waterford Tp., N.B., section of pre-Silurian south of, (77-78) pp. 14-15 DD.
- Head Harbour Cove, Campo Bello Island, N.B., rocks at, (70-71) p. 131.
- Head-waters, Cheicamp River, Map-sheet issued 1884, scale 1 in. = 1 m.
- Head-waters, Bonaventure River, Map-sheet of part of Bonaventure and Gaspé Cos., Que., issued in 1884.
- Healeys Falls, Trent River, Ont., exposures of Trenton Group at, (1863) pp. 187-188.
- Heart Hill, N.W.T., height above plain, (73-74) p. 28.
- Hearth-finery at St. Maurice forges, Que., iron produced in, (73-74) p. 248.
- Heath Point, Anticosti, Que., rocks of, (1863) p. 306.
- Heath's patent for making steel, (66-69) E. p. 293, F. p. 324.
- Heating power of coal, peat and petroleum, (63-66) p. 290.
- Heaton's process of producing cast steel, (66-69) E. p. 294, p. 326.
- Heavy-spar, (baryte) note on localities of occurrence of, in Ontario and Quebec, (1863) pp. 458-459.
uses of, in arts, localities of occurrence of, (1863) pp. 770-771.
occurrence of, in Laurentian, (63-69) p. 202.
Benacadie Pond, N.S., in conglomerate of, (76-77) p. 440.
at Fries Island, Markhamville, N.B., and Grand Manan, (70-71) p. 237.
of Judique Chapel Brook, N.S., note on, (79-80) p. 125 F.
at Mabou coal-field, N.S., along line of faulted contact, (82-84) p. 69 H.
at North Burgess, Ont., vein of, (63-66) p. 226.
in Pine Brook, N.S., (76-77) p. 447.
in veins of upper part of Upper Copper-bearing rocks, note on occurrence of, (1863) p. 75.
- HECTOR, JAMES, description of first prairie steppe, two notes, (73-74) p. 20.
second prairie steppe, (73-74) p. 23.
divisions of Cretaceous rocks of the prairies and probable age of coal horizon, (73-74) p. 51.
referred to, (76-77) pp. 89, 177.
- Heenan location, Lake of the Woods, assay of ore from, (82-84) pp. 11-12 MM.

- Heffernan Brook, Hastings Tp., Inverness Co., N.S., Devonian rocks of, (79-80) p. 50 F.
- Heffernan Pond, Inverness Co., N.S., felsite and diorite with syenite near, (79-80) p. 12 F.
- Height-of-land, south of Lake Abitibi, green diorites, high hills near, (72-73) pp. 123-124.
- between Fraser and Peace rivers, elevation of, (75-76) p. 34.
- west of Fort McLeod, B.C., plants found in vicinity of, (75-76) p. 139.
- parallel to lines of limits of trees south of Hudson Bay, (79-80) p. 42 C.
- between Lake Superior and Long Lake, Ont., (70-71) p. 335
- north of Lake Superior, note on, (70-71) p. 324.
- north of Lake St. John, Que., estimated elevation of, (70-71) p. 301.
- Little South-west Miramichi River, elevation of lakes at, (79-80) p. 32 D.
- south of Missinabi Lake, Ont., length of portage at, (75-76) p. 331.
- south of Mistassini Lake, character of, (71-72) p. 117.
- north of McKays Lake, Pic River, Ont., (70-71) p. 332.
- between North Thompson and Canoe rivers, B.C., (71-72) p. 38.
- Height-of-land portage to Lac des Mille Lacs, Ont., rocks on, (72-73) p. 96.
- between Saskatchewan River and Beaver River, N.W.T., (79-80) p. 99 B.
- Height of lakes above sea, in Northern British Columbia, (79-80) p. 24 B.
- in Frontenac and Addington, Ont., noted by Murray, 1852, (72-73) p. 174.
- in Laurentides, with area of, (1863) p. 6.
- in Notre Dame Mountains, (1863) p. 4.
- on Trent River, Ont., (1863) pp. 11-12.
- Height above sea, of Chilliwack Mountain, B.C., (82-84) p. 12 B.
- of Dog Lake, Kaministiquia River, (1863) p. 64.
- of beaches and terraces around Lake Superior, (1863) p. 913.
- of beaches and terraces on Montreal Mt., (1863) p. 918.
- of terraces at Owen Sound, Ont., (1863) p. 912.
- of mouth of Roche River and Peseyten River, on South Similkameen, B.C., (82-84) p. 14 B.
- of stratified deposits in St. John River Valley, N.B., (82-84) p. 37 GG.
- Height, of lakes, rivers, etc., method of determining by R. Bell, (70-71) p. 324.
- of places in Western Ontario on G.T.Ry., of the Great Lakes, note on comparative levels, (1863) pp. 15-17.
- of Laurentides, general note on and estimated elevations of localities. (1863) p. 5.
- of mountains in Northern British Columbia, (79-80) pp. 24-25 B.
- of points along coast line of Lower Silurian sea (Potsdam sandstone) in Eastern Canada, (1863) p. 109.
- Height—*Cont.*
- in Pine Pass, obtained barometrically, note on, (79-80) p. 37 B.
- in western peninsula of Ontario and on G.T.Ry., (1863) pp. 15-16.
- Helderberg Group, Lower, divisions of, in New York, description and characters of, (1863) pp. 353-355.
- distribution of lower part of, in Ontario, (1863) pp. 354-358.
- description of Gaspé limestones, (1863) pp. 391-394.
- formations included in upper part of, (1863) p. 362.
- note on, (76-77) p. 238.
- Helen Lake, Nipigon River, Ont., description of, (66-69) E. p. 336, F. p. 372.
- Heliolites interstincta*, Linnæus, wood-cut of, (1863) p. 305.
- Hell-gate, Missinibi River, Ont., limestone exposures at, (75-76) p. 327.
- Helmet Is., Dana Inlet, Q.C.Is., situation and appearance of, (78-79) p. 26 B.
- Helomyzids* of Tertiary beds of Quesnel, B.C., (75-76) p. 275.
- Hematite, general characters, descriptions of, deposits of, in Ontario and Quebec, (1863) pp. 677-682.
- reference to localities in Ontario and Quebec, (1863) pp. 509-510.
- analyses and assays from various localities of, (73-74) pp. 223-227.
- table of analyses of Canadian, (73-74) p. 226.
- geological range of, (73-74) p. 212.
- list of minerals associated with, and notes on minerals of above list, (73-74) pp. 219-223.
- notes on, by B J. Harrington, (73-74) pp. 212-227.
- mode on occurrence of, in Palæozoic rocks, (73-74) pp. 214-218.
- mode on occurrence of, in Laurentian, (73-74) pp. 212, 213.
- mode of occurrence and mineral associations of, (73-74) pp. 212-223.
- mode of occurrence of, in Huronian, (73-74) pp. 213-214.
- in beds probably sedimentary, (63-66) p. 216.
- in veins probably eruptive, (63-66) p. 216.
- varieties of, (73-74) p. 212.
- Hematite in Nova Scotia:—
- in Cape Breton Co., note on occurrence, new deposits, analyses, etc., of, (74-75) p. 263, and (76-77) p. 449.
- of Southern Cape Breton and Guysborough Cos., (79-80) pp. 121-122 F.
- note on localities in Cape Breton Island, and references to reports on, (82-84) pp. 90-91 H.
- in Benacadia Glen, Cape Breton Co., (76-77) p. 440.
- from Big Pond, Bras d'Or, analysis of, (74-75) p. 263.
- of Bourinot road, analysis of, (76-77) p. 449.

Hematite in Nova Scotia—Cont.

- from Bourinot road, note on, (75-76) p. 414.
 from East Bay, analysis of, (76-77) p. 473.
 on Glengarry road, Cape Breton Co., (79-77) p. 441.
 in sandstone, Grand River, (77-78) p. 21 F.
 from near Loch Lomond, analysis of, (80-82) p. 7 H.
 in felsite-breccias and porphyry of Mackerel Cove and Presquille Cove, Madame Is., (79-80) pp. 5-6 F.
 from Peter Totten's lot, Acadia mines, Londonderry, analysis of, (73-74) p. 224.
 from Pictou, Hudson's claim, area No. 45, analysis of, (73-74) p. 223.
 from Pictou Co., Webster's area No. 101, analysis of, (73-74) p. 223.
 from area No. 108, Pictou Co., results of assay of, (73-74) p. 224.
 occurrence of, in conglomerates of Ragged Head, Chedabucto Bay, (79-80) p. 48 F.
 at Sydney, at summit of Lower Carboniferous, (73-74) p. 176.
 from Whykokomagh mine, partial analysis of, (73-74) p. 225.

Hematite in Quebec:—

- from Amherst Island, near Demoiselle Hill, Magdalen Is., analysis, (79-80) p. 15 H.
 exposures of ore in Hull, (63-66) p. 22.
 as associated with magnetite at Hull, Blairton and Bristol, (73-74) p. 207.
 and magnetite, intermixture of, in Ottawa Co., (76-77) p. 296.
 exposures of ore in Templeton, (63-66) p. 21.

Hematite in Ontario:—

- at Bachewahnung Bay, (63-66) p. 130.
 from Dalhousie mine, results of examination of, (73-74) p. 225.
 from lot 30, R. 6, Elmsley Tp., analysis of, (73-74) p. 225.
 from Flamborough, note on, (76-77) p. 474.
 from Garden River, purplish, in quartzite at, (76-77) p. 211.
 from Gros Cap, Lake Superior, two exposures of, (76-77) p. 220.
 from Lake Nipigon, east side, and Inner Barn, analyses of, (73-74) p. 225.
 from Lanark Co., in gneiss belt of northern part, (74-75) p. 130.
 from McNab Tp., analyses of, (1863) pp. 677-678.
 from McNab Tp., description, analyses, etc., of, (66-69) E. p. 259, F. p. 287.
 from McNab Tp., Renfrew Co. in striped limestone, (74-75) p. 151.
 announced as occurring in Madoc Tp., (63-66) p. 10.
 description of, in Marmora Tp., (63-66) p. 102.
 in North Burgess, small opening showing, (63-66) p. 228.
 in North Hastings, localities of, (63-66) pp. 100-103.
 from Sharbot Lake, percentage of metallic iron in, (82-84) p. 17 MM.

Hematite in North-west Territories:—

- found by A. S. Cochrane at Fond du Lac, Athabasca Lake, (82-84) p. 31 CC.
 reported near Ashes Inlet, Hudson Strait, (82-84) p. 24 DD.
 Hematite (brown) of Pictou Co., N.S., analysis of, (66-69) E. p. 441, F. p. 493.
 (brown) reference to localities in Ontario and Quebec, (1863) p. 510.
 Hematite deposits, in McNab Tp., Ont., Bristol, Que., and on Lake Nipissing, Ont., (1863) pp. 677-678.
 opposite Woodstock, N.B., associated rocks, (74-75) p. 101.
 Hematitic amygdaloid of Small Is., near Chapel Is., St. Peter Inlet, N.S., (77-78) p. 20 F.
 Hematitic iron-ore in boulders, Albany River, Ont., (71-72) p. 112.
 of Dalhousie Tp., Lanark, Ont., (70-71) p. 314.
 of North Hastings and part of Peterborough Co., Ont., (66-69) E. p. 161, F. p. 178.
 Hemiptera of Tertiary beds of, Quesnel, B.C., (75-76) p. 279.
 of Tertiary of interior of British Columbia, Similkameen River and Nine-mile Creek, (77-78) pp. 182-185 B.
 Hemlock, note on northern range of, in Canada, (79-80) p. 51 C.
 note on growth of, in Western New Brunswick, (82-84) p. 44 GG.
 forests of, in Eastern New Brunswick, (80-82) p. 6 D.
 Hemmingford Mountain, Que., character and thickness of Potsdam rocks of, (1863) p. 88.
 shale in Potsdam sandstone, probably indicates lower shales of Quebec Group, (1863) p. 235.
 deposit of ochre upon Potsdam sandstone on, (1863) p. 769.
 Hemmingford Tp., Que., character of Potsdam rocks in conglomerates with shales, flagstones, (1863) p. 88.
 top of Potsdam, interstratified with calcareous rocks, breccia with Trenton and Potsdam fragments, (1863) p. 89.
 note on peat deposit in, (1863) p. 782.
 rocks of, suitable for flagging, (1863) p. 829.
 Hen and Chickens, Georgian Bay, Ont., Trenton group composing rocks of, (1863) p. 193.
 Henan's location, Lake of the Woods, Ont., description of, (82-84) p. 59 K.
 Henderson Settlement, Wickham, N.B., (75-76) p. 361.
 Lower Carboniferous rocks derived from lower beds exposed at, (72-73) p. 193.
 Henderson's Mill Stream, near Bull Moose Hill, Kings Co., N.B., rocks of, (70-71) p. 80.
 Henley Island, Chateau Bay, Labrador, basalt on, (82-84) p. 10 DD.
 Henrietta slope, Block House mine, N.S., (72-73) p. 280.

- Henry Island, off Port Hood, N.S., geological structure of, thickness of beds on, (82-84) p. 60 H.
- Henry Lake, St. Martin's Tp., N.B., width of pre-Silurian band near, (77-78) p. 12 DD. section of pre-Silurian schistose group south of, (77-78) pp. 19-20 DD. manganese ore reported at, (78-79) p. 24 D.
- Henryville, Que., character of mineral water at (1863) p. 538. the Utica Formation exposed at, (1863) p. 208.
- Henslung anchorage, North Island, Q.C.Is., situation of, (78-79) p. 40 B.
- Henslung Cove, Q.C.Is., rocks of, (78-79) p. 83 B.
- Hepburn copper mine, Que., situation of, depth of shaft, etc., (80-82) p. 2 GG.
- Herbaceous plants in flower in May, Vancouver Island, B.C., list of, (75-76) p. 113.
- Herbaceous plants of Western New Brunswick, partial list of, (82-84) p. 45 GG.
- Hereford Tp., Que., granitic intrusive masses in, (1863) p. 434.
- Herkimer Co., N.Y., coal-like matter or Albertite in, (63-66) p. 262.
- Herkyelthie or Goose Lake, B.C., hilly country westward of, (76-77) p. 19.
- Hernando Island, Gulf of Georgia, stratified deposits of, (78-79) p. 98 B.
- Heron Cove mine, near Pic River, Ont., dolomitic schists, value of ore, (72-73) p. 110. assay of ore from, (72-73) p. 111.
- Heron Island, Bay of Chaleurs, sandstones and conglomerates of Lower Carboniferous on, (79-80) p. 9 D.
- Heron Lake, near Fredericton, N.B., example of drift-dammed lake, kame crossing valley, (82-84) p. 19 GG. description of kame, (82-84) p. 27 GG.
- HERRICK, THOMAS, survey of Nipigon River, Ont., note on by, (66-69) E. p. 315, F. p. 347.
- Herrick's line, crossing Pic River, Ont., reference to, (70-71) p. 327.
- Herrick's mills, St. Armand, Que., breadth of sandrock exposures at (Lower Cambrian) (1863) p. 285. position of Potsdam sandrock in series near, (1863) pp. 285-286.
- Herrick's plan of Lake Nipigon, size of lake made too large, (66-69) E. p. 471, F. p. 525.
- Herring white-fish of, Nelson and Hayes rivers, identified, (78-79) p. 6 C.
- Herring, of waters of Queen Charlotte Island, note on, (78-79) p. 44 B.
- Herring Cove, Campo Bello Island, N.B., rocks at, (70-71) p. 132.
- Herrington Cove, Port Daniel Bay, Que., small exposures of Lower Carboniferous in, (80-82) p. 9 D.
- Hespeler, Ont., exposures of Guelph Formation at, fossils found, building stone, (1863) p. 340. collections of Guelph fossils made by T. C. Weston at, 1871, (71-72) p. 14.
- Heteromyda senilis*, description of, from Tertiary beds, Quensnel, B.C., (75-76) p. 275.
- Heulandite found in Montreal traps, and trachyte of Chambly, Que., (1863) p. 481. in Hampstead, Queens Co., N.B., (70-71) p. 239. pearly, occurrence of, at Port George, N.S., (82-84) p. 25 L.
- Heye's patent system of salt manufacture, (74-75) p. 295.
- Heywood Island, Lake Nipissing, Ont., rocks of, (76-77) p. 209.
- Hibbard pit, Springhill, N.S., seam traced to Black seam, (73-74) p. 148. Springhill, N.S., sections in bore-holes near, (73-74) pp. 155-156.
- Hibernia road, St. John Co., N.B., pre-Silurian rocks of, (77-78) p. 12 DD.
- Hibernia Settlement, N.B., Lower Carboniferous fossiliferous limestone at, (72-73) p. 190. thin beds of limestone at, (72-73) p. 228.
- HICKMAN, JAS. S., sample of coal sent by, from Black River, Cumberland Co., N.S., analysis of, (78-79) pp. 11-12 H.
- Hickmans slope, Bligh area, Springhill, N.S., section at bottom, (73-74) p. 160.
- Hickory, note on range of, in Canada, (79-80) p. 53 C.
- Hi-ellen River, Graham Is., Q.C.Is., salmon stream, description of, (78-79) p. 34 B. rocks of, (78-79) p. 86 B. abandoned Indian village, situation of, (78-79) p. 164 B.
- High Cliff, Anticosti Island, Que., height of, (1863) p. 223.
- High Cape, Bay of Chaleurs, Bonaventure Formation covering Devonian rocks at, (79-80) p. 13 D.
- High Falls of the Lièvre River, Que., examination of apatite deposits near, by Vennor, (73-74) p. 144. apatite-bearing rocks at, (76-77) p. 307.
- High Falls, Madawaska River, Ont., section of Laurentian at, (1863) pp. 29-31. analysis of diopside from, (1863) p. 467. gneiss ridge forming, (76-77) p. 251. analysis of hornblende from, (77-78) p. 23 G.
- High Falls, South Petite Nation River, Ont., Trenton limestone exposed at, (1863) p. 170.
- High Falls, Rivière du Loup, Que., Lauzon forming precipice at, (66-69) E. p. 133, F. p. 148.
- High-level glaciation, character of, (77-78) p. 150 B.

- High-rock mine, Lièvre River, Portland Tp., Ottawa Co., Que., description of work at, note on apatite and associated rocks, (82-84) pp. 5-11 J.
- High Rock, Nelson River, elevation of, (77-78) p. 18 CC.
- Highgate Springs, Vermont, rocks of, (1863) p. 273.
Trenton rocks should be brought up by anticline from north, (1863) p. 273.
lowest rocks in anticline, probably Trenton and Chazy, (1863) pp. 273-274.
wood-cut of *Ampyx Halli* from, (1863) p. 274.
diagrammatic section showing arrangement of rocks from Chazy to Utica, and relation to Quebec Group at, (1863) p. 855.
rocks of, additional notes on, (1863) p. 855.
diagrammatic section of rocks at, (1863) Atlas.
- Highland mine, north of Gunflint Lake, Ont., assays of quartz from, (82-84) p. 7 MM.
- Highlands of Charlotte, Kings and Queens Cos., N.B., (70-71) p. 15.
- Highly felspathic greywacké from Potton, Ship-ton and Rolette Tps., Que., microscopic structure of, (80-82) pp. 20-22 A.
- HIGHMAN, JOHN, work with boring machinery on Saskatchewan River, in 1875, by, (75-76) pp. 281-291.
- Highwood River, Alta., width of disturbed belt on, (80-82) p. 3 B.
general description of, (82-84) p. 27 C.
thin seams of coal at mouth of, (82-84) p. 83 C.
descriptive geology of, (82-84) pp. 103-106 C.
diagrammatic section through Foothills, showing attitude of beds at, (82-84) facing p. 106 C.
list of coal outcrops on, with thickness of seams, (82-84) p. 131 C.
analyses of lignitic coal from, (82-84) pp. 27-29 M.
- HILL, A. J., Carboniferous plants presented to Museum by, (73-74) p. 5.
acknowledgments to, for plans, fossils, etc., (74-75) p. 168.
plants collected by, at Cosset's pit, near Sydney, N.S., insects from same horizon, (74-75) pp. 191-192.
donations to Museum of Survey by, (82-84) p. 19.
- HILL, J., pit sunk by, south side of Springhill coal-field, N.S., section, (73-74) p. 159.
- Hill River, valley of Nelson River, general description of, (77-78) pp. 6-7 CC.
on part rocks not striated of, (77-78) p. 26 CC.
magnetic variation on, (78-79) p. 72 C.
list of plants from, collected in 1880, (79-80) pp. 59-69 C.
- Hills, Cape Breton Island, N.S., (76-77) p. 404.
Northern Cape Breton Island, note on, (82-84) p. 77 H.
- Hills—*Cont.*
south of Little Whale River, Hudson Bay, illustration showing, (77-78) p. 13 C.
- Hills Brook, Morrison Harbour, N.S., diorite with felsite, (79-80) p. 7 F.
- Hills Lake, Pine River, Nelson River valley, description of limestone outcrops on, (79-80) p. 9 C.
- Hillsborough, Albert Co., N.B., gypsum deposits at, (70-71) p. 232.
plaster works at, (76-77) p. 395.
- Hillsdale, N.B., note on deposit of manganese at, (78-79) p. 24 D.
loose pieces of manganese ore found at, (78-79) p. 18 D.
- Hillside post-office, N.B., evidence of manganese ore near, (77-78) p. 11 D.
- HIND, H. Y., reference to geological work of, in Canada, (1863) p. xii.
work and reports on geology of New Brunswick in 1865 by, (70-71) p. 27.
on extension of lodes in Waverly gold district, (70-71) p. 263.
on granitic belt of Nova Scotia, quoted, (70-71) p. 265.
on waste of gold in tailings, gold mines of Nova Scotia, (70-71) p. 278.
on valley of Winnipeg River, Man., (72-73) p. 17.
on cliff of sand with boulders, Lake Winnipeg, (72-73) p. 17.
reference to salt springs of Manitoba, described by, (73-74) p. 22.
note on hematite ores of Woodstock, N.B., by, (73-74) p. 214.
report by, quoted, (76-77) pp. 450-451.
- Hippa Island, west of Graham Island, Q.C.Is., note on, (78-79) p. 41 B.
character of rocks of coast near, (78-79) p. 85 B.
Dixon's description of Indian village at, (78-79) p. 170 B.
- Hippolyte Gaimardii*, note on specimen from Vancouver Island, B.C., (78-79) p. 212 B.
- Hippolyte Phippsii*, note on specimen from Virago Sound, B.C., (78-79) p. 213 B.
- Hisingerite (?) from Elizabethtown, Ont., analysis of (74-75) p. 315.
- History and statistics of trade and manufacture of Canadian salt, by J. Lionel Smith, (74-75) pp. 267-300.
- HITCHCOCK, Dr., referred to on age of Vermont granites, (80-82) pp. 6-7 A.
- Hochelega Co., Que., for general geology see Part I. p. 8.
- HODGE, JAS. T., extracts from report on coal mines of Rocky Mountains, U.S., (73-74) pp. 54-56.
- HODGE, JAMES, quoted on manufacture of peat, (63-66) pp. 285-289.
- Hodges machine for manufacturing peat, cost of working, (63-66) p. 289.
- Hodgson's process for pressing peat, (1863) p. 774.

- HOFFMANN, DR., of England, referred to, (63-66) p. 279.
- HOFFMANN, G. C., work by, (72-73) p. 5.
 summary of, work during year by, (73-74) pp. 6-8.
 summary of work for 1874-1875 in laboratory by, (74-75) pp. 13-14.
 Chemical Contributions to Geology of Canada, 1874-1875, by, (74-75) pp. 313-319.
 summary of investigations in laboratory for 1875 by, (75-76) p. 5.
 Chemical Contributions to Geology of Canada by, (75-76) pp. 419-432.
 work by, on Canadian graphite, referred to, (76-77) p. 7.
 report on Canadian graphite, by, (76-77) pp. 489-510.
 work done by in 1877-1878, (77-78) p. 8.
 Chemical Contributions to the Geology of Canada by, (77-78) pp. 1-14 H.
 summary of work of chemical branch, 1879, (78-79) p. 6.
 Chemical Contributions to the Geology of Canada by, (78-79) pp. 1-25 H.
 continuation of report on Canadian graphite with analyses of disseminated graphite by, (78-79) pp. 2-4 H.
 summary of work of laboratory from, 1880 by, (79-80) p. 8.
 Chemical Contributions to Geology of Canada by, (79-80) pp. 1-21 H.
 work of, in laboratory during 1881, (80-82) p. 10.
 summary of work of chemical and mineralogical branch for 1882 by, (80-82) pp. 26-27.
 Chemical Contributions to the Geology of Canada by, (80-82) pp. 1-16 H.
 results of investigation of coals and lignites of North-west Territories by, (82-84) pp. 1-44 M.
- Analyses by:—
 anthracite from Long Island, Hudson Bay, (75-76) p. 423.
 apatite from Buckingham, Portland and Templeton, (77-78) pp. 3-9 H.
 apatite from Storrington and North Burgess, Ont., (77-78) pp. 2-4 H.
 brine from Nanaimo, B.C., (72-73) p. 82.
 building stones, (82-84) pp. 1-3 MM.
 clay-ironstone from South Alberta, (80-82) pp. 10-12 H.
 clay-ironstone from Bow, Kananaskis and Belly rivers and Mill Creek (82-84) pp. 168-169 C.
 coals from Upper Salmon River, Albert Co., N.B., (79-80) p. 8 H.
 coal from Broad Cove, Inverness Co., N.S., (73-74) pp. 188-191.
 coal from Rocky Mt. Cañon, Peace River, N.W.T., (75-76) p. 6.
 coals from Cumberland Co., N.S., Pincher Creek, N.W.T., Skeena River, B.C., and Watsonquah River, B.C., (78-79) pp. 11 14 H.
 coal from Watsonkwa River, B.C., (79-80) p. 105 B.
- HOFFMANN, G. C., Analyses by—*Cont.*
 copper ores from Spar Island, Echo Lake, Ont., and Skincuttle Inlet, Q.C.Is., (78-79) p. 16 H.
 cyanite from North Thompson River, B.C., (78-79) p. 1 H.
 dolomite from Cape Dauphin, N.S., (73-74) pp. 174-175.
 felsite from Watson Brook, N.S., (75-76) p. 424.
 graphite from Buckingham Tp., Que., (75-76) pp. 426-428.
 graphite shale from French Vale, N.S., (79-80) pp. 1-2 H.
 hematite from Pictou, N.S., (73-74) p. 223.
 infusorial earth from Pollet River Lake, Kings Co., N.B., tests of, (79-80) pp. 3-6 H.
 iron-ores from Acadia mines, N.S., (72-73) pp. 30-31.
 iron-ore from Silver Lake, Lanark Co., Ont., (74-75) p. 116.
 iron-ores from Queen Charlotte Islands, Keewatin and Ontario, (78-79) pp. 14-15 H.
 kaolin from Grand Frenier, Que., (78-79) p. 7 H.
 kaolinite from Acton Tp., Ont., (74-75) pp. 314-315.
 labradorite from North Sherbrooke, Ont., (74-75) p. 316.
 lazulite from near Churchill River, Hudson Bay, (78-79) p. 2 H.
 lignite from upper part of Athabasca River, (79-80) pp. 10-11 H.
 lignite from Bow River, at Blackfoot Crossing and Crowfoot Creek, (79-80) pp. 11-12 H.
 lignites from Dirt Hills and Woody Mountain, N.W.T., (73-74) pp. 90-93.
 lignite from Moose River, (75-76) p. 422.
 lignite from Pine River, B.C., (79-80) H.
 lignite from Smoky River, N.W.T., (79-80) pp. 9-10 H.
 lignite from Souris River, N.W.T., (79-80) pp. 8-9 H.
 limonite from Acadia mines, Londonderry, Ross' farm and Martin Brook, N.S., (73-74) pp. 231-232.
 limonite from Cullen area No. 105, Pictou Co., N.S., (73-74) p. 234.
 magnetite from Leeds Tp., Que., (73-74) p. 209.
 magnetic iron-ore from Fitzroy Tp., Ont., (79-80), pp. 15-16 H.
 manganese ore from Boulardrie Island, C.B., (78-79) p. 17 H.
 micaceous iron-ore from Stewart Pond, Guystorough Co., N.S., (79-80) p. 14 H.
 micaceous iron-ore from Gairloch Mountain, Middle River, N.S., (79-80) p. 14 H.
 mineral water, Block-house mine, C.B., (72-73) p. 281.

- HOFFMANN, G. C., Analyses by—*Cont.*
 mineral water from Eastman Springs, Ont., (74-75) pp. 318-319.
 mirabilite from Fort St. John, Peace River, (75-76) p. 421.
 pyrite from Londonderry, N.S., (74-75) p. 316.
 salammoniac and sulphur from Smoky River, N.W.T., (75-76) p. 420.
 samarskite from Brassard, Que., (80-82) p. 1 H.
 specular iron-ore from Cooks Brook, N.S., (73-74) p. 224.
- Assays by—
 clay-ironstone and soap clay from Edmonton, (73-74) p. 64.
 copper-ores from Ely, Sheffield, Que., (79-80) p. 17 H.
 copper-ore from Howes Sound, B.C., (75-76) p. 432.
 copper ore from Spences Bridge, B.C., (75-76) p. 5.
 copper-ores from Whycocomagh, N.S., (79-80) p. 17 H.
 galenite from Wanamakie, Hammond River, N.B., (78-79) p. 18 H.
 gold and silver quartz for, from Douglas Portage, B.C., (78-79) p. 24 H.
 gold and silver ore from Cariboo, B.C., (75-76) p. 429.
 gold and silver ore from Spar Island, Lake Superior, (78-79) pp. 19-20.
 quartz from lode on Manson Creek, near Dunkeld, B.C., (75-76) p. 430.
 hematite from Moose River, Ont., (75-76) p. 431.
 iron-ores from White Mud River, south of Fort Pelly, Man., (75-76) p. 431.
 silver-ore from Eureka mine, Fort Hope, B.C., (75-76) p. 5.
 silver-ores from Suffield mine, Ascot, (75-76) p. 431.
 various ores, (82-84) pp. 3-19 MM.
 rock for tin from Pollet River, N.B., (75-76) p. 432.
- Hog Lake, Huntingdon Tp., Ont., strike of gneiss at, (1863) p. 32.
 beds of lower part of Trenton Group exposed at, (1863) p. 181.
 Trenton Group resting on undenuded rocks at, (1863) p. 295.
 crystalline limestones and dolomite of, (66-69) E. p. 154, F. p. 171.
 red syenite rocks of, (66-69) E. p. 146, F. p. 162.
- Hogem Pass, Omenica, B.C., height of, (79-80) p. 25 B.
- Hogs Back, Ottawa, Ont., quarry in limestone, thickness of beds at, (1863) p. 817.
- Hole-in-the-wall, Hastings road, Ont., copper- and gold ores of, (74-75) p. 160.
 note on felspar in diorite, analysis of, (74-75) pp. 309-310.
- HOLMES, A. F., reference to mineralogical work of, (1863) p. xi.
- Holland River and Landing, Ont., note on boulder drift at, (1863) p. 895.
- Holland Tp., Ont., outcrop of Clinton Formation in, (1863) p. 315.
- Holopea elegans*, Hall, wood-cut of, (1863) p. 958.
- Holopea Guelphensis*, Billings, wood-cut of, (1863) p. 343.
- Holopea Pyrene*, Billings, wood-cut of, (1863) p. 145.
- Homalonotus delphinocephalus*, Green, wood-cut of, (1863) p. 319.
- Homathco River, B.C., beds of Jackass Mt. Group on headwaters of, (75-76) p. 254.
 copper reported as obtained from, (76-77) p. 148.
 gold reported to be found on, (76-77) p. 143.
 note on specimens of cinnabar from, (76-77) pp. 133, 149.
- Hone-stones, in Huronian of Ottertail Lake, Thessalon River, Ont., (1863) p. 809.
- HONEYMAN, D., work on gypsum deposits, Nova Scotia, by, (68-69) p. 7 Summ.
 reference to report on George River limestones by, (75-76) p. 381.
 referred to, fossils found on Red Islands, N.S., (76-77) p. 446.
 reference to reports by, on calcites of Whycocomagh, N.S., (79-80) p. 32 F.
- Hoopers Creek, Cowgitz, Q.C.Is., tunnels in Coal Measures at, (72-73) pp. 57-58.
 sections of Coal Measures at, (72-73) p. 58.
 appearance and thickness of coal in tunnel at, (78-79) p. 73 B.
- Hooper's mill, Framboise River, N.S., aluminous shales of, (77-78) p. 5 F.
- Hope, B.C., Eureka silver mine, width of vein at, (71-72) p. 57.
 assay results from sample of silver-ore near Eureka mine, at, (73-74) p. 7.
 silver at, general note on, (76-77) p. 131.
 silver deposits near, character of country-rock, (77-78) p. 160 B.
 situation of town, rocks of hills behind, (82-84) p. 16 B.
 note on silver in quartz vein near, (82-84) p. 38 B.
 description of route east from, (82-84) pp. 16-32 B.
- Hope to Osoyoos Lake, B.C., description of trail from, (77-78) pp. 45-51 B.
- Hopedale, Labrador, list of plants from, (82-84) p. 38-47 DD.
- Hopetown, Lanark, Ont., blotched diorites at, (74-75) p. 145.
- Hopetown road, Lanark, Ont., tremolitic dolomite on, (74-75) p. 147.
- Hopewell Corner, N.B., mentioned as locality for manganese, (77-78) p. 12 D.
 note on deposit of manganese at, (78-79) p. 24 D.
- Hopewell Ferry, Memramcook River, Albert Co., N.B., Lower Carboniferous rocks at, (70-71) p. 209.

- Hopewell Islands, Hudson Bay, description, sections, diagrammatic view of cliffs on, (77-78) pp. 18-19 C.
 general structure of, (77-78) p. 12 C.
- Hopewell Point, East Main Coast, Hudson Bay, Hopewell Point, view from near, showing inner side of island, (77-78) p. 19 C.
- Hopewell Hill, N.B., openings made for gypsum at, (78-79) p. 26 D.
- HOPKINS, G. W., analysis of galena from Omineca, B.C., by, (79-80) p. 111 B.
- Hopkins Point, Kitimat Inlet, B.C., rocks of, (74-75) p. 79.
- Hopper-shaped casts in rocks of Onondaga Formation, with wood-cut of, (1863) pp. 345, 625.
- Hops introduced at Victoria, B.C., yield and price, with report on sample of product by Wm. Dow & Co., Montreal, (71-72) pp. 96-97.
- HORETZKY, CHAS., explorations with Jas. Richardson in British Columbia, (74-75) pp. 71-72.
 description of Peace River valley, between Middle River and Hudsons Hope, by, (75-76) p. 50.
 notes on volcanic rocks of Skeena and Naas rivers by, (75-76) p. 70.
 samples of coal from Skeena River, B.C., sent by, assays of, (78-79) pp. 12-13 H.
 list of latitudes determined by, 1879, in British Columbia, (79-80) p. 164 B.
- HORETZKY and MACOUN, journey through Peace River Pass to Pacific, reference to, (75-76) p. 30.
- Horizon of gold veins in wood section, as given by Campbell, (70-71) p. 262.
- Horizon, of iron-ores of Leeds and Lanark Cos., Ont., (74-75) p. 122.
 of iron-ore in Ottawa Co., Que., (76-77) p. 295.
 of iron-ore in Ontario and Quebec, (76-77) p. 296.
 of iron-ore in Renfrew Co., Ont., (76-77) p. 247.
 of crystalline rocks, general associations of, (1863) p. 646.
- Hornblende, general note on occurrence of, in Laurentian, (1863) p. 25.
 general description of, with analyses, varieties of, localities of occurrence, (1863) p. 466.
 note on occurrence of, in veins in Laurentian, (63-66) p. 206.
 not generally associated with hematite, (73-74) p. 201.
 with magnetite, note on occurrences of, (73-74) p. 201.
 in apatite-bearing rocks, note on, (77-78) p. 24 G.
 analysis of, from McVeigh lot, Bathurst, (73-74) p. 23 G.
 from High Falls, Madawaska River, Ont., (77-78) p. 23 G.
 from Edenville, N.Y., (77-78) p. 201.
- Hornblende, localities of occurrence in New Brunswick, (70-71) p. 238.
 blotched, of Hastings, Lanark and Renfrew Cos., Ont., (76-77) p. 204.
 crystalline, vicinity of Parry Sound, Ont. (76-77) p. 204.
 Rutherford Tp., Ont., (76-77) p. 209.
- Hornblende granite from Orford Tp., lot 3, R. XV., Que., microscopic structure of, (80-82) p. 10 A.
 from Shipton Tp., R. XII., Que., microscopic structure of, (80-82) pp. 8-10 A.
- Hornblende gneiss, opposite Leach Island, Lake Superior, (76-77) p. 218.
- Hornblende mica-schists, Cap Choyé, Lake Superior, (76-77) p. 218.
- Hornblende rock-masses, reference to analyses and descriptions of, note on Mt. Albert hornblende schists, (1863) p. 608.
- Hornblende-schists, of Cap Choyé, Lake Superior, (76-77) p. 219.
 near Point aux Mines and Goulais River, Lake Superior, Ont., (63-66) p. 120.
 of Rutherford Tp., Ont., (76-77) p. 209.
 of Shibaonaning, Ont., (76-77) p. 208.
- Hornblende-slate, on Calabogie Lake, Ont., nearly horizontal, (76-77) p. 250.
 at outlet of Lac des Quinze, Ottawa River (72-73) p. 118.
- Hornblendic rocks, reference to nomenclature of, (63-69) p. 95.
 associated with Laurentian limestones, (63-66) p. 185.
 assay of, from Foley Tp., Ont., (76-77) p. 200.
 of Horton and Ross Tps., Ont., (76-77) p. 260.
 at Lamirondières Bay, Ont., (76-77) p. 209.
 of Group IV., Lanark, Ont., slates and schists, (74-75) pp. 142, 149-151.
 of Lake Traverse and Lake Pemscashie, St. Maurice River, Que., (70-71) p. 290.
 in McDougall Tp., Ont., (76-77) pp. 200-205.
 in Madoc and Elzevir Tps., Ont., (63-66) p. 95.
 hills of, in Norton Tp., Ont., (76-77) p. 288.
 at Partridge Bay, Ont., (76-77) pp. 197-198.
 at Rankin mine, Root River, Ont., (76-77) pp. 212-213.
 in Rutherford Tp., Ont., (76-77) p. 209.
 vicinity of Victoria mine, Garden River, Ont., calcareous, (76-77) p. 212.
- Hornby Island, B.C., fossils of Middle shales on, (72-73) p. 48.
 section of Middle shales on, (72-73) p. 47.
 section of Middle conglomerates on, (72-73) p. 49.
 section of Upper shales on, (72-73) pp. 49-50.
 section of Upper conglomerates in Tribune Bay, (72-73) p. 50-51.
 cliffs of sand and clay, soil, prairie land, (72-73) p. 64.
 fossil ferns, oaks and conifers in rocks of, (72-73) pp. 66-70.
 note on rocks of, (76-77) p. 168.

- Horn dish used by Haida Indians, figure 18, (78-79) p. 142 B.
- Horne Lake, Vancouver Island, B.C., crystalline limestones on, (72-73) p. 53.
- Horn farm, N.S., 3½-foot seam, crossing Truro road, (66-69) E. p. 84, F. p. 94.
- Horn ladle, of Haida workmanship, illustrated plate VII., (78-79) B.
- Horn spoon used by Haida Indians, figured on plate XI., (78-79) B.
- HORNE, HENRY, London, reference to essay on manufacture of iron and steel from iron-sand by, (66-69) E. p. 262. F. p. 291.
- Horn's quarry near Ridgway, Ont., exposure of Corniferous formation at, (1863) p. 364.
- Hornstone in the Huronian, Upper Copper-bearing rocks and the Quebec Group, reference to, (1863) p. 500.
- Horseback, definition of term as applied to gravel ridges in New Brunswick, (77-78) p. 12.
or kame on watershed between St. John and St. Croix rivers, description of, (82-84) p. 25 GG.
- Horse-fly River, B.C., gold on, (76-77) p. 143.
- Horse Head Mountain, Peace River, rocks of, also called Bull's Head and Buffalo's Head, (75-76) p. 74.
- Horse Island, Georgian Bay, red beds of Clinton Formation exposed on, (1863) p. 320.
rocks of Niagara Formation, exposed on, (1863) p. 333.
- Horse Shoe Bay, South-East of Nanaimo, B.C., rocks at, (76-77) p. 182.
- Horse Shoe Bay, Rideau Lake, Ont., crystalline limestone band at, (72-73) p. 168.
- Horse-shoe Bend, Bow River, Alta., seam of coal at top of Pierre, thickness and analysis of (80-82) p. 15 B.
estimated quantity of coal underlying one square mile, (80-82) p. 22 B.
character of valley near, (82-84) p. 33 C.
description of banks at, coal seams at base of Laramie, (82-84) pp. 88-89 C.
coal seam, estimated quantity of available coal in, (82-84) p. 128 C.
analysis of lignite from, (82-84) p. 22 M.
- Horton Brook, Inverness Co., N.S., amygdaloids of, (79-80) p. 11 F.
Devonian and pre-Cambrian rocks on, contact of, (79-80) p. 51 F.
- Horton Tp., Ont., banded limestones of, (74-75) p. 144.
extension of limestones in, (76-77) p. 246.
syncline in rocks of, (76-77) p. 258.
deep sand deposits of, (76-77) p. 261.
sequence of rocks in, (76-77) p. 267.
hills of black, hornblendic rock in, (76-77) p. 288.
- Horton Tp., Que., copper localities in, (63-66) p. 314.
- Horton trough of limestones in Eastern Ontario, (76-77) p. 258.
- Hot Spring Island, Q.C.Is., description of spring on, (78-79) p. 22 B.
- Hot water, an agent in metamorphism, (1863) p. 534.
- Houghton, Michigan, stamp works of, (63-67) p. 161.
- House, plan and elevation of, Haida Indian, plate XIV., (78-79) B.
- House River, Athabasca River, section of sandstones near mouth of, (82-84) p. 9 CC.
- Household boxes used by Haida Indians, see fig. 29, (78-79) p. 142 B.
- Houses of Haida Indians, building of, temporary houses, (78-79) p. 118.
general description of and dimensions, (78-79) pp. 146-148 B.
carved posts of, at Cumsheewa Village, Q.C.Is., illustration of, (78-79) facing p. 116 H.
at Skedans Village, Q.C.Is., illustration, (78-79) facing p. 146 B.
at Skidegate, Q.C.Is., illustration frontispiece, (78-79) B.
- Houston-Stewart Channel, B.C., surveyed in 1853 by Inskip, Gordon and Knox, (78-79) p. 13 B.
description of, (78-79) p. 15 B.
rocks exposed in, list of Triassic fossils from, (78-79) p. 49 B.
sailing directions for entering from eastward, (78-79) p. 16 B.
glaciation, course of ice motion, (78-79) pp. 89-90 B.
- Howard Tp., Que., outline of margin of labradorite area in, (1863) p. 838.
- Howard, Kent Co., Ont., record of wells in, (63-66) p. 245.
- How, H., analyses of coals from Foord pits, Albion mines. N.S., by, (66-69) E. p. 372, F. p. 413.
from Stellar seam, Acadia Colliery, N.S., (66-69) E. p. 377, F. p. 418.
from Montreal and Pictou seams of coal, (66-69) E. pp. 387-388, F. p. 430.
from Sydney Main Seam, (72-73) p. 243.
analyses of ankerite and iron-ore, London-derry, N.S., by, (72-73) p. 27.
analysis of cannel coal from Little Glace Bay, N.S., by, (74-75) p. 221.
analysis of hematite from Big Pond Bras d'Or, N.S., by, (74-75) p. 263.
analysis of mineral water from East Bay, N.S., by, (76-77) p. 458.
analysis of limestone from Marble Mountain, N.S., by, (77-78) p. 29. F.
work in Digby Co., N.S., by, (68-69) p. 8 Summ.
- Howe Point, Scatarie Is., N.S., felsites of, (77-78) p. 7 F.
- Howe Sound, B.C., assay of copper-ore from, (75-76) p. 432.
copper-ore from, (76-77) pp. 132, 147.
- Howick Tp., Ont., outcrop of Corniferous Formation, reported in, (1863) p. 371.

- Howland Ridge, York Co., N.B., plumbaginous slates of, (82-84) p. 19 G.
- Howse iron-mine, Bedford Tp., Ont., ore shipped in 1869, (70-71) p. 312.
shipments of ore, character and extent, section showing horizon of bed, (74-75) pp. 119-120.
- Howse Lake, B.C., near Hope, reference to specimens of magnetite from, (73-74) p. 206.
- HOYT, J., information supplied by, (66-69) E. p. 67, F. p. 74.
report on McGregor seam, Acadian mines, N.S., by, (66-69) E. p. 376, F. p. 417.
report of gas trials of Acadia mine coal at New York, by, (66-69) E. p. 436, F. p. 487.
- Hozamen Pass and Mountains, B.C., attitude of metamorphic rocks of, (82-84) p. 13 B.
- Hub coal seam, Little Glace Bay mines, N.S., thickness, admiralty trials of coal from, (72-73) p. 260.
description and analysis of, (72-73) p. 290.
section of, near Table Head, N.S., (74-75) p. 218.
effect of ignition of, at Burnt Head, N.S., (74-75) p. 266.
- Huckleberry rocks of Madoc and Marmora Tps., Ont., (66-69) E. p. 146, F. p. 163.
relation to upper series, (71-72) p. 129.
- HUDSON, JAS., information supplied by, (66-69) E. p. 67, F. p. 74.
- Hudson area, No. 45, Pictou, N.S., analysis of hematite from, (73-74) p. 223.
- Hudson River Formation, general distribution, with the Utica Formation in Canada, sections, fossils and illustrations of fossils from, (1863) pp. 198-224.
in the State of New York, general sketch of, (1863) p. 210.
- Hudson River Formation in Ontario:—
note on exposures of, in, (1863) pp. 212-219.
thickness of, in Collingwood Tp., (1863) p. 213.
section of, at Cape Robert, (63-66) p. 171.
on Drummond Island, Sulphur Island and St. Josephs Island, (66-69) E. p. 113, F. p. 127.
fossils found on Don, Humber and Credit rivers, (1863) p. 213.
in Manitoulin Islands, fossils, etc., (1863) pp. 217-219.
section of, (66-69) E. p. 111, F. p. 125.
note on, (63-66) p. 171.
red shales of Russell and Osgoode Tps., (1863) p. 219.
in vicinity of Toronto, character and exposures of, (1863) pp. 212-213.
- Hudson River Formation in Quebec:—
area occupied by, between Trenton and Deschambault anticline, (1863) p. 206.
of Anticosti, general remarks on strike of beds, (1863) p. 224.
- Hudson River Formation in Quebec—*Cont.*
sandstones of, for building stone, (1863) p. 815.
area of, in Gaspé, probable synclinal form, sections at Great Pond and Griffin Cove, (1863) p. 270.
outliers of, in rocks of older age, note on, (80-82) p. 16 DD.
description of exposures and outliers of, relation to Lévis rocks, (80-82) pp. 17-23 DD.
rocks resembling, east of Lake Champlain, (1863) p. 854.
red shales of, on Little River du Chêne, (1863) p. 203.
rocks of, on the Marsouin River, (1863) p. 267.
east of St. Lawrence River, (1863) pp. 208-209.
thickness of, estimated, near Island of Orleans, (1863) p. 200.
limestone of, on Ste. Famille Island, p. 200.
limestone of, exposed at St. Hyacinthe, (1863) p. 209.
sandstone of, on Ste. Anne de Montmorenci River, (1863) p. 200.
- Hudson Bay, anthracite coal, note on loose pieces from Long Island, (75-76) p. 325.
note on chain of islands parallel to east coast, channel through James Bay, (75-76) p. 324.
note on columnar trap of islands on east side of, (75-76) p. 324.
general character of East Main coast, Cape Jones to Cape Dufferin, (77-78) p. 11 C.
report on exploration of east coast of, by R. Bell, (77-78) pp. 1-33 C.
summary of R. Bell's exploration to, in 1877-78, (77-78) p. 5.
fish and marine mammals seen in, note on, (77-78) pp. 28-29 C.
analysis of spathic iron-ore from Flint Island, (77-78) p. 47 G.
map of east coast of, scale 4 in. = 1 m. accompanying, (77-78) C.
proofs of subsidence of sea-level in record of present level, (77-78) pp. 25, 32-33 C.
character of coast north of Churchill, (78-79) p. 22 C.
fossils from three miles east of Churchill River, (78-79) p. 51 C.
Lepidoptera, from west coast, list of, (78-79) pp. 63-64 C.
mollusks found at mouth of rivers, notes on, (78-79) p. 7 C.
plants from shores of, list of, (78-79) pp. 53-60 C.
evidence of subsidence in sea-level at Churchill, (78-79) p. 21 C.
near York Factory, (77-78) p. 25 CC.
general account of, by R. Bell, (79-80) pp. 27-38 C.
note on geology of basin of, resources of, (79-80) pp. 30-33 C.
and some lakes and rivers west of it, report by R. Bell, (79-80) pp. 1-113 C.
note on extent of basin of, (79-80) p. 28 C.

Hudson Bay—Cont.

- note on fishes reported as frequenting, (79-80) p. 17 U.
- note on minerals of region surrounding, (79-80) p. 32 C.
- route for railway and steamship communication, general note on advantages of, (79-80) pp. 32-35 C.
- note on tides of, (79-80) p. 30 C.
- notes on voyage from York Factory to London, by R. Bell, temperature of sea, (79-80) pp. 16-27 C.
- arrivals of vessels at York and Moose factories, 1735-1880, (79-80) pp. 84-92 C.
- birds of, list and notes on, by R. Bell, (82-84) pp. 54-56 DD.
- glaciation of, general remarks on, (82-84) pp. 36-37 DD.
- mammals of, list and notes on, (82-84) pp. 48-53 DD.
- list of plants collected at Churchill and York Factory, (82-84) pp. 38-47 DD.
- notes on specimens of rocks from west shore of, near Marble Island, (82-84) p. 34 DD.
- from east coast of, (75-76) p. 342.
- Hudson Strait, note on, drift ice in, (79-80) p. 20 C.
- navigable for four months, (79-80) p. 36 C.
- note on, height of cliffs on south side, character of rocks of, (79-80) p. 21 C.
- comparison of shores north and south of, (79-80) p. 23 C.
- views showing north coast north-west of Drake Inlet and between Point Lookout and Savage Island, (79-80) facing p. 24 C.
- general remarks on glaciation in, (82-84) pp. 36-37 DD.
- list of *Lepidoptera* collected on, by R. Bell, 1884, (82-84) p. 61 DD.
- list of plants collected on, (82-84) pp. 38-47 DD.
- and Bay and coast of Labrador, notes on geology, mineralogy, botany and zoology of, by Dr. R. Bell, (82-84) pp. 1-62 DD.
- Hudson's Bay Co.'s ship *Ocean Nymph*, size of, date of arrival at York, (79-80) p. 4 C.
- Hudson's Bay Co.'s vessels, dates of arrival and departure from York, 1789-1880, (79-80) pp. 84-88 C.
- Hudsons Hope, Peace River, situation of, A. R. C. Selwyn's arrival at, (75-76) p. 45.
- barometric height for, (75-76) p. 47.
- vegetables grown in garden at, (75-76) p. 48.
- rocks at, (75-76) p. 63.
- luxuriant vegetation, cause, vegetables grown in gardens, at, (75-76) pp. 152-154.
- description of plateau south of, (79-80) p. 62 B.
- climate at, (79-80) p. 70 B.
- Hugh Gillis Brook, Margaree River, N.S., sandstones and shales of, (82-84) p. 45 H.
- Hugh McGilvary seam, section on shore of Sydney Harbour, N.S., (74-75) p. 228.
- Hull furnace, reference to former description of, (73-74) p. 251.

- Hull hydraulic cement, analysis of dolomite used in making, (1863) p. 619.
- Hull iron mines, analyses of ore from, (73-74) p. 211.
- cost of transporting ore from, (73-74) p. 245.
- note on production of iron-ore in 1873 at, (73-74) p. 258.
- Hull ore bed, Ottawa Co., Que., plumbago in scales in pyroxene rocks of, (1863) p. 529.
- Hull Tp., Que., apatite in, note on deposits of, (76-77) p. 308.
- notes on apatite mines in, (80-82) p. 10 GG, and (82-84) pp. 16-17 L.
- magnetic iron-ore bed in, analysis of ore, ore shipped from, (1863) p. 673.
- exposures of Chazy Formation in, (1863) p. 129.
- Potsdam sandstone in, (1863) p. 94.
- barytes in veins in, (63-66) p. 20.
- occurrence of graphite with hematite in, (63-66) p. 219.
- small masses of hematite in, (63-66) p. 22.
- analyses of ores from blast furnace in, (66-69) E. p. 254, F. p. 280.
- average daily production of pig iron in, (66-69) E. p. 255, F. p. 281.
- fuel and ore used, cost of iron produced in furnaces at, (66-69) E. p. 255, F. p. 281.
- ores should be smelted with less coal, note on iron produced in, (66-69) E. p. 256, F. p. 281.
- graphite and hematite associated with magnetite in, (73-74) p. 201.
- comparative table of analyses of magnetites from, (73-74) p. 211.
- barytes and flour spar occurring in, (73-74) pp. 145-146.
- magnetite with crystalline limestone in, (73-74) p. 196.
- apatite rocks of, (76-77) p. 295.
- note on building stones from, (82-84) p. 20 L.
- Human remains found in ridges above Lake Huron at Isthmus Bay, Ont., (1863) p. 912.
- Humber River, Ont., exposures of Hudson River Formation noted on, (1863) p. 213.
- Humberstone anticline, in Corniferous Formation, (63-66) p. 259.
- Humberstone Tp., Ont., exposures of Onondaga Formation in, (1863) p. 347.
- undulation in outcrop of Corniferous Formation crossing Welland Canal in, (1863) p. 379.
- Humboldt Bay, Lake Nipigon. gneiss rock of, (66-69) E. p. 343, F. p. 379.
- quartz veins holding copper-pyrites at, (66-69) E. p. 360. F. p. 399.
- Hume River, N.S., conglomerates of, (82-84) p. 39 H.
- Hummocks of till in St. John River Valley, N.B., examples of, (82-84) p. 12 GG.
- HUMPHREY, A. A., photograph of hydraulic gold washing on Chaudière River, Que., given by, (80-82) p. 4 A.

- Hungerford Tp., Hastings, Ont., outcrop of the base of the Trenton Group in, (1863) p. 180.
 note on marble of, (63-66) p. 94.
 copper locality in, (63-66) p. 106.
- HUNT, T. STERRY, sketch of work by, previous to 1863, (1863) p. vi.
 summary of report on Laurentian minerals, peat, petroleum and Laurentian limestones by, (63-66) p. 11.
 report on quartz from gold regions of Eastern Canada by, (63-66) pp. 79-90.
 objection by, to retain name melophyres, (63-66) p. 160.
 on geology and mineralogy of Laurentian limestones, (63-66) pp. 181-233.
 mineralogical note by, (63-66) pp. 224-229.
 on origin of mineral silicates in *Eozoon*, (63-66) pp. 229-233.
 on geology of petroleum, (63-66) pp. 233-263.
 notice of papers by, on anticlines and petroleum, (63-66) p. 256.
 on brine springs and salt, (63-66) pp. 263-281.
 on the porosity of rocks, (63-66) pp. 281-284.
 on peat and its applications, (63-66) pp. 284-291.
 report on geology and chemistry of salt, in Goderich region, Ont., by, (66-69) E. pp. 211-224, F. p. 233-270.
 studies on iron and iron-ores of the Dominion by, (66-69) E. pp. 244-304, F. 270-336.
 brochure by, on geology of Canada, referred to, (68-69) p. 3 Summ.
 summary of work in Nova Scotia, 1867-68, by, (68-69) p. 4 Summ.
 investigations during 1866-68 by, (68-69) p. 9 Summ.
 summary of work in 1869 in New Brunswick and N. Hampshire by, (69-70) p. 9 Summ.
 work by, in Southern New Brunswick in 1870, (70-71) p. 2.
 work in New Brunswick and Western Ontario in 1870, (70-71) p. 9.
 examination of rocks at Dolin Lake, near St. John, N.B., by, (70-71) p. 41.
 on loss of gold in tailings, (70-71) p. 279.
 labours of, during 1871, (71-72) p. 15.
 report on silver-ore from Eureka mine and coal from Nicola River, B.C., by, (71-72) p. 66.
 report on iron-ore and volcanic rocks from British Columbia by, (71-72) p. 67.
 date of retirement from Survey, successor, (72-73) p. 5.
 note on recent papers by, change of views, (73-74) p. 2.
 report on Goderich salt region by, (76-77) pp. 221-243.
 reference to report on Quebec Group in Pennsylvania Survey Reports by, (77-78) p. 3.
 opinion of, on age of Copper-bearing rocks of Lake Superior, (77-78) p. 9 A.
- HUNT, T. STERRY—*Cont.*
 Analyses of:—
 Bog ores, comparative table of, by, (73-74) p. 237.
 Coals from Vancouver Island, notes on rock specimens, (71-72) pp. 98-100.
 Dolomite from Sutton, Que., (77-78) p. 38 G.
 Illmenite from Bay St. Paul, Que., (73-74) p. 227.
 Pig iron from St. Maurice, Que., (73-74) p. 248.
 Phosphatic nodules from Rivière Ouelle, Que., (76-77) p. 434.
 Gold-ore from Madoc and Marmora, (66-69) E. pp. 170-171, F. pp. 189-190.
 Assays of:—
 Tailings from gold mines in Nova Scotia, (70-71) p. 279.
- Hun-chay-yuz Mountain, B.C., height of, (76-77) p. 48.
- HUNTER, JOSEPH, reference to exploration of Pine River Pass, B.C., by, (79-80) p. 35 B.
- Hunters Hill, Red Deer River, Alta., analyses of lignite from near, (82-84) pp. 16-18 M.
- Hunters Island, near Mingan Islands, Gulf of St. Lawrence, composed of Calciferous sandrock, (1863) p. 120.
- Hunters Mountain, N.S., Laurentian rocks of, (76-77) p. 425.
 horizon of coal of, (82-84) p. 41 H.
- Hunterstown, Que., scapolite found at, (1863) p. 473.
 analysis of anorthite or labradorite from, (1863) p. 479.
 note on crystals of tourmaline from, (1863) p. 493.
- Hunting Hill, Red Deer River, Alta., character of valley of river, near, (82-84) p. 35 C.
- Huntingdon Co., Que., *for general geology see Part I*, p. 8.
- Huntingdon mine, Que., section of metalliferous band at, (63-66) p. 35.
 extent of workings at, (63-66) p. 36.
 statistics for 1869-1871 of, (71-72) p. 148.
- Huntingdon Tp., Ont., note on strike of gneiss in, (1863) p. 32.
 crystals of calcite found in, (1863) p. 455.
- Huntley Tp., Ont., distribution of the Calciferous in, (1863) p. 117.
 exposures of Chazy sandstone and limestone in, (1863) p. 127.
 anticline bringing up Chazy in, (1863) p. 128.
 outline of Trenton Formation in, (1863) pp. 174-175.
 peat deposits of note on, (1863) p. 780.
- Huron Co., Ont., *for general geology see Part I*, p. 13.
- Huron Island, Bay of Chaleurs, note on nature of rocks of, (1863) p. 451.
- Huron Lake *see* Lake Huron.
- Huron salt works, Goderich, Ont., yield of, (66-69) E. p. 223, F. p. 246.

- Huron and Bruce Salt Co., statistics for 1869-1871, (71-72) p. 147.
- Huronian* in Niagara of Manitoulin Group, note on, (66-69) E. p. 115, F. p. 129.
- Huronian area, on Missinaibi River, above Round Bay, also at Sharp-rock and Albany rapids. (75-76) p. 333.
- of Michipicoten River, description of rocks, (75-76) pp. 635-336.
- Huronian band, on Crooked Lake, Missinaibi River, Ont., (77-78) p. 3 C.
- on East Main coast, Hudson Bay, Cape Hope and Paint Hills, (77-78) p. 10 C.
- at Island Portage, Wanapiti River, (75-76) p. 296.
- north-west of Lake Superior, (72-73) pp. 106-108.
- at Red Lake, north of English River predicted, (72-73) p. 103.
- Huronian belt on east shore of Lake Winnipeg, (77-78) p. 23 C.
- Huronian boulders on plains near Qu'Appelle Lakes, N.W.T., (73-74) p. 87.
- Huronian diorite, near Rush Hill, Wickham, N.B., (72-73) p. 191.
- Huronian débris, abundant in drift on Assiniboine and Qu'Appelle rivers, (74-75) p. 42.
- Huronian magnetites, discussion of mode of occurrence and mineral associations of, (73-74) pp. 194-205.
- Huronian mine, Jack Fish Lake, Ont., note by A. R. C. Selwyn on, (82-84) pp. 1-2.
- Huronian limestone, of Rutherford Tp., Ont., (76-77) p. 209.
- Huronian quartzite, of Shibaonaning, Ont., (76-77) p. 208.
- large boulder of, on Waterton River, illustration showing (82-84) facing p. 148 C.
- Huronian rocks of the Coastal Group of N.B., position, character, distribution of, (70-71) pp. 83-84.
- Huronian schists on Black River, branch of Pic River, Ont., (70-71) p. 346.
- on Kabinakagami River, Moose River basin, (80-82) p. 5 C.
- on Little Pic River, Algoma, Ont., (70-71) p. 347.
- in hills lower part of Pic River, Ont., (70-71) p. 329.
- of Thunder Bay near Current River, (72-73) p. 90.
- of White River, Algoma, Ont., (70-71) p. 345.
- Huronian Series, general description of, with sections from typical locality, (1863) pp. 50-66.
- general description of rocks of, (1863) p. 594.
- general note on distribution of, in original area, (1863) p. 61.
- additional notes on, (1863) pp. 841-844.
- succession of intrusions in, (1863) p. 59.
- as defined by A. R. C. Selwyn, groups included in, (77-88) p. 14 A.
- Huronian Series—*Cont.*
- of east shore, Lake Superior, (63-66) pp. 123-129.
- contact of, with Laurentian on Lake Superior, (63-66) p. 127-129.
- on Kaministiquia River, Ont., (1863) p. 64.
- in Kingston Peninsula, N.B., extension eastwards, (77-78) pp. 10-11 D.
- north of Belleisle Bay, N.B., rocks of, (77-78) p. 11 D.
- on Black Sturgeon River, Lake Superior, (66-69) E. p. 335, F. p. 370.
- rocks in British Columbia, similar to, (76-77) p. 89.
- rocks in British Columbia, compared with, (82-84) p. 31 B.
- copper deposits in, notes on, (1863) p. 694.
- in Western Charlotte Co., N.B., (70-71) pp. 82-83.
- at Cap Choyé, Lake Superior, (76-77) p. 218.
- Coldbrook Group, N.B., general conclusions on age of, (70-71) p. 82.
- Coldbrook, Coastal and Kingston Groups of, in Southern New Brunswick, (70-71) pp. 57-58.
- on Cross Lake and Oxford Lake band, (77-78) pp. 18-22 CC.
- compared with Quebec Group and Mistassini rocks, (72-73) p. 14.
- of English River, evidences of age of, (72-73) p. 14.
- in district around Gods and Island lakes, (78-79) pp. 36-38 C.
- on Grass River, referred to, (78-79) p. 13 C.
- greenstones of, note on, (1863) p. 57.
- at Gull Rapid, Nelson River, (78-79) p. 27 C.
- occurrences of hematite in rocks of, (73-74) p. 213-214.
- in Northern Kings Co., N.B., (70-71) pp. 112-118.
- sections on Lake Huron, (1863) p. 52.
- on north shore Lake Huron and St. Marys River, map 1 in. = 8 m., (1863) Atlas.
- on Lake Maria, Nipigon River, Ont., (66-69) F. p. 339, F. p. 374.
- south of Lake Mistassini, on Lake Chebogamaw, Que., (70-71) pp. 291-293.
- on Lake Nipigon, east side of, at Spekes Point, (66-69) E. p. 342, F. p. 378.
- on Lake Opsatika, Upper Ottawa River, (72-73) pp. 122-123.
- on Lake Superior and Kaministiquia River, general description of, (1863) pp. 63-64.
- economic minerals, (63-66) pp. 129-132.
- north-west of Lake Superior, characters of, (72-73) p. 106.
- on Lake Temiscaming, slates and sandstones, (1863) p. 336.
- of Lake Winnipeg, east shore, strike of rocks, (74-75) p. 39.
- limestones of, general note on, with analyses, from Lake Panache, (1863) p. 596.
- on Little Perch River, south-east of Mistassini Lake, (71-72) p. 118.
- on Minnietakie Lake, Ont., width of band, (72-73) p. 102.
- in Nachvak Inlet, Labrador, (82-84) pp. 15-16 DD.

Huronian Series—*Cont.*

- on Nelson River, near Burntwood River, (78-79) p. 13 C.
- on Ottawa River, above Temiscaming Lake, (72-73) p. 115.
- on head-waters of Pic and Powitik rivers, Ont., referred to, (71-72) p. 108.
- in Queens and Sunbury Cos., N.B., description of outcrops (Coldbrook Group), (75-76) pp. 350-352.
- on Rainy River and Lake Ont., (73-74) p. 89.
- resemblance of rocks of group II., Lanark Co., to, (74-75) p. 130.
- on River Blanche and Round Lake, Ont., (72-73) pp. 129-130.
- at Sault Ste. Marie, Ont., (76-77) p. 194.
- near Shibaonaning, Ont., (76-77) p. 208.
- in Southern New Brunswick, new facts observed in 1871, (71-72) p. 143.
- subdivisions of, with short history of previous views, (77-78) p. 2 D.
- on Spanish River, Ont., bounded by Laurentian gneiss resembling intrusive granite, (1863) p. 61.
- of Thessalon River, description and thickness of, (1863) p. 56.
- general section of rocks, (1863) pp. 55-57.
- east of Thessalon trough, Ont., thickness, interstratified greenstones, section of, (1863) p. 843.
- in Thunder Bay District, (66-69) E. p. 329, F. p. 363.
- in Wicklow, Kars and Springfield, Queens and Kings Cos., N.B., (70-71) pp. 68-82.
- on Winnipeg River, (72-73) pp. 15-107.
- Huronian slate-conglomerates of Doré River, Lake Superior, (1863) pp. 53-55.
- Hurontario, Ont., exposures of Trenton Group noted at, (1863) p. 193.
- HUTCHINS, B., assays of ores from gold mine in Levant, Ont, (71-72) p. 141.
- Hut Lake, Ont., glacial stræ on, (74-75) p. 44.
- Hutchinson's tunnel, Cowgitz coal mines, Q.C.Is., (72-73) p. 58.
- distance run, small seam, (78-79) p. 74 B.
- Huston Bay, Skincuttle Inlet, Q.C.Is., general description of, (78-79) p. 18 B.
- Huston Inlet, Q.C.Is., limestone band of Triassic rocks, probable Cretaceous outliers, (78-79) p. 54 B.
- Hutton Inlet, Q.C.Is., description of, (78-79) p. 21 B.
- dioritic and schistose rocks with marble, (78-79) p. 57 B.
- Huxley Island, Q.C.Is., description of, (78-79) p. 21 B.
- Hyacinth, *see* zircon, (1863) p. 499.
- HYAAT, A., referred to, (76-77) p. 156.
- Hydraulic cement, note on composition of, and localities yielding materials for, (1863) pp. 804-807.

Hydraulic cement—*Cont.*

- manufacture of, from carbonate of magnesia and calcined clay, forms mortar hardening under water, (1863) p. 757.
- statistics for Ontario for 1869-1871, (71-72) p. 147.
- statistics for Quebec for 1869-71, (71-72) p. 148.
- Hydraulic cement-stone, occurrence of, on Belangers Island and White Bear Island, H. B., (77-78) p. 23 C.
- occurrence of, on Manitoulin Islands, (63-66) p. 178.
- Hydraulic limestone from Wickham, Que., analysis of, (74-75) p. 311.
- Hydraulic gold mining, suggested for British Columbia, (71-72) p. 56.
- recommended as economical, (63-66) p. 67.
- limit of profitable working, (63-66) p. 89.
- in California extended account referred to, (63-66) p. 89.
- in California, Georgia and North Carolina, general description of, (1863) pp. 742-743.
- in California and Australia, note on, (70-71) p. 275.
- in Cariboo, B.C., recommended, (76-77) p. 114.
- on Chaudière River, Que., illustration showing view of, (80-82) facing p. 4 A.
- in Eastern Canada recommended, (63-66) p. 51.
- in South America, methods employed in, (63-66) p. 68.
- Hydrochloric acid, manufacture of, near Brockville, Ont., (74-75) p. 307.
- Hydrous oxides of iron, classification of, (73-74) p. 193.
- Hygroscopic water, in fuels of Alberta, tables and diagram illustrating, notes on, (82-84) pp. 134-137 C.
- in coals, methods of determining, (82-84) p. 2 M.
- Hygrotrechus Ståli*, Scudder, description of, from Tertiary of Similkameen, B.C., (77-78) p. 182 B.
- Hymenoptera* of Tertiary beds at Quesnel, B.C., (75-76) pp. 266-270.
- from Tertiary beds of Similkameen River, B.C., (77-78) p. 176 B.
- Hyolithes* of St. Simon and Bic, Que., referred to, (76-77) p. 435.
- Hyperite or Hypersthenite, general characters of, (1863) p. 650.
- note on occurrence in Laurentian (1863) p. 588.
- Hypersthene, occurrence of, at Dolin Lake, N.B., (70-71) p. 238.
- from Château Richer, analysis of, (1863) p. 468.
- note on occurrence in Laurentian, (1863) p. 588.
- Hypersthenic greenstone in Mooyie River, Kootenay, B.C., (82-84) p. 25 B.

- Hypoclinia obliterata*, Scudder, description of fossil insect from Quesnel, B.C., (75-76) p. 267.
- I-a-pe-oo or Buck Moose Lake near Little Smoky River, Athabasca, description of, (79-80) p. 65 B.
- Iberville Co., Que., for general geology see Part I., p. 9.
- Ice, in Hudson Strait, notes by R. Bell on, (82-84) pp. 22-24 DD.
duration of, in François and Fraser lakes, B.C., (76-76) p. 47.
on Lake Nipigon and Lake Superior, effects of, (66-69) E. p. 354, F. p. 393.
- Ice-formed beaches and islands in Winnipeg basin and on the plains, (74-75) pp. 52-53.
- Ice grooves, on west coast, B.C., (74-75) p. 81.
list of, in Ontario and Quebec, (1863) pp. 890-892.
at Scotch Lake road, N.S., (75-76) p. 413.
of Thunder Bay and Nipigon district, Ont., (66-69) E. p. 352, F. p. 389.
see Glacial Stria, (63-66).
- Iceshoring, in lakes in Nova Scotia, Barren Lake near Loch Lomond, (77-78) p. 28 F.
effect of, in spring on banks of Churchill River, (78-79) p. 20 C.
effect of, in bed of Nelson River, near mouth, (77-78) p. 12 CC.
- Ice "pans" on Hudson Bay, earth seen on surface of, (79-80) p. 19 C.
- Iceunomonidæ* of Tertiary, beds of Quesnel, B.C., (75-76) pp. 268-269.
- Idocrase, mode of occurrence of, in Laurentian, (63-66) p. 212.
in apatite rocks of Templeton and Wakefield, Que., (77-78) p. 27 G.
in calcareous-spar, of Grenville and at Calumet Falls, Que., (1863) p. 496.
crystals of, at Mullin's mine, Wakefield, Que., (80-82) p. 13 GG.
crystals of, at Roberts Bay, Ont., (76-77) p. 207.
- Ignace Island, Lake Superior, band of grits and conglomerates interstratified with traps, (1863) p. 78.
- Igneous origin of apatite veins not applicable to Canada (77-78) p. 11 G.
- Igneous intrusive rocks of Judique Brook, Inverness Co., N.S., (79-80) p. 103 F.
- Igneous rocks, of the Tertiary of British Columbia, (76-77) p. 75.
associated with Triassic near Rose Harbour, Q.C.Is., (78-79) p. 50.
of coast of Gaspé Peninsula, Que., (80-82) pp. 31-32.
in Cambro-Silurian of Canterbury Parish, N.B., (82-84) p. 15 G.
- I-is-kapising Portage, Kaministiquia River, Ont., rocks of, (72-73) p. 91.
- Illænus*, notes on specimens from St. Andrews, Man., (78-79) p. 46.
- Illænus angusticollis*, Billings, wood-cut of, (1863) p. 151.
- Illænus Bayfieldi*, Billings, wood-cuts of, (1863) p. 133.
- Illænus confrons*, Billings, wood-cuts of, (1863) p. 151.
- Illænus Conradi*, Billings, wood-cut of specimens of, (1863) p. 151.
- Illænus globosus*, Billings, wood-cuts of, (1863) p. 133.
- Illænus Milleri*, Billings, wood-cuts of, (1863) of, p. 151.
- Igatcheo or Gatcho Lake, B.C., description of country near, (76-77) p. 27.
- Il-ga-chuz Mountains, B.C., position, height of, (76-77) p. 26.
on the Bella Coola Trail, (76-77) p. 37.
volcanic vents, altitude, etc. of, (76-77) p. 77.
illustration showing high peaks of, (76-77) facing p. 38.
- Illustrations, list of:—
Athabasca River, from Drift Pile Camp, looking down, (79-80) facing p. 80 B.
Babine range of mountains, sketch of, from Skeena Forks and north-eastward, (79-80) facing p. 114 B.
Bald Mountain, Nipisiguit River, N.B., (79-80) facing p. 35 D.
Belly River, Alta., outcrop of main seam at Coal Banks on, (80-82) facing p. 10 B.
Belly Valley, at Coal Banks Crossing, drift bluffs on, (82-84) facing p. 140 C.
Blackwater River, valley of, above bridge, (75-76) facing p. 244.
Bon Ami Cape, Bay of Chaleurs, pillar of trap at, sketch by Sir Wm. Logan, (80-82) facing p. 19 D.
Bow River, above Morley, looking west, (82-84) facing p. 30 C.
Brassy Hill, view from, (77-78) facing p. 24 CC.
Chaudière River, Que., hydraulic gold washing on, (80-82) facing p. 4 A.
Chilcotin River, B.C., valley and plateau of, (75-76) facing p. 236.
Chippewyan camp, on barren lands north-west of Churchill, (78-79) facing p. 20 C.
Churchill, at low tide, and Eskimo dogs at, (78-79) facing p. 16 C.
Churchill River, limestone cliff and clay banks on, (78-79) facing p. 18 C.
Clearwater River, Peace River, valley of, (75-76) facing p. 80.
Goldstream Valley, B.C., erratic in, (77-78) facing p. 150 B.
Coquihalla River, B.C., in valley of, (77-78) facing p. 40 B.
Cumshewa Village, Q.C.Is., houses and carved posts in, (78-79) facing p. 116 B.
East Main Coast, from near Little Whale River, (77-78) facing p. 11 C.
Emery mine, N.S., stump and roots of *Sigillaria Sydneensis* from, (74-75) p. 196.
Fort Prince of Wales, ruins of, facing p. 30 C.

Illustrations, list of—*Cont.*

Franklin River, above Wapinaipinis Portage, (77-78) facing p. 9 CC.
 Fraser River, at Quesnel, B.C., section across, (75-76) p. 257.
 Goderich, Ont., section in boring at, (76-77) facing p. 232.
 Grand Matte River, Gaspé, Que., gorge at mouth of, (80-82) facing p. 22 DD.
 Grand Prairie, B.C., (77-78) facing p. 62 B.
 Grand Rapid, Athabasca River, sketch of, by R. Bell, (82-84) facing p. 10 CC.
 Haida masks and implements, plates VI. to XII. accompanying, (78-79) B.
 Harewood mine, Nanaimo, B.C., first openings on seam at, (76-77) p. 186.
 Hudson Strait, outline of coast near Cape Wolstenholme, (78-80) facing p. 21 C.
 Hudson Strait, outline of coast north side of, and west point of King Georges Sound, and south point of Resolution Island, (79-80) facing p. 24 C.
 Il-ga-chuz Mts., B.C., looking across high terrace to peaks of, (76-77) facing p. 38.
 It-cha volcanic range, B.C., outline of, (76-77) facing p. 78.
 Kes-la-chick River, B.C., rocks at cañon on, (76-77) facing p. 70.
 Little Churchill River, looking up, above Recluse Lake, (78-79) facing p. 15 C.
 Little Whale River, North Bluff and H. B. Co.'s post on, (77-78) C Frontispiece.
 Little Whale River, Hudson Bay, hills south of, (77-78) facing p. 13 C.
 Lower Blackwater Cañon, B.C., rocks at entrance of, (75-76) facing p. 249.
 Magdalen River, Gaspé, Que., Grand Falls of, (80-82) facing p. 21 DD.
 Marble Island, Hudson Bay, view of harbour on, (82-84) facing p. 34 DD.
 Michipicoten River, from its mouth, looking up, (80-82) facing p. 1 C.
 granite hill on, (80-82) facing p. 3 C.
 Missinaibi River, Conjuring House Rock on, (77-78) facing p. 7 C.
 Milk River, N.W.T., weathered sandstone rocks on, (80-82) B Frontispiece.
 Mount Selwyn, Peace River, (75-76) facing p. 42.
 mountain peaks from 14 miles below Nation River, on Parsnip River, (75-76) facing p. 65.
 Mount St. Paul, near Kamloops, B.C., (77-78) facing p. 18 B.
 Nachvak Inlet, from Hudson's Bay Company's post, (82-84) facing p. 14 DD.
 Nanaimo, B.C., with U.S. gun boat Saranac at wharf, (76-77) facing p. 170.
 Nation and Parsnip rivers, B.C., junction of, (75-76) facing p. 71.
 Nazzo River valley, B.C., mounds and ridges in, (75-76) facing p. 242.
 Nechacco River, B.C., Fort Fraser crossing of, (76-77) facing p. 46.
 Nelson River, near Clearwater River, looking down, (77-78) CC Frontispiece.
 sixty miles from sea, looking up, (78-79) facing p. 23 C.

Illustrations, list of—*Cont.*

White Mud Falls on, southern channel of, (77-78) facing p. 14 CC.
 Nipisiguit River, N.B., Pabineau Falls on, (79-80) p. 33 D.
 North Thompson Valley, from near Kamloops, B.C., looking up, (77-78) facing p. 12 B.
 North-west Miramichi River, N.B., rapid at upper end of narrows of, (79-80) facing p. 28 D.
 Old Man River, below Fort Macleod, looking south-west, (82-84) facing p. 24 C.
 Oxford House, Keewatin, (79-80) C Frontispiece.
 Parsnip River, mountain peaks from 14 miles below Nation River, (75-76) facing p. 65.
 Peace River, from Finlay Forks, looking down, (75-76) facing p. 40.
 below Otter Tail River, looking up, (75-76) facing p. 75.
 between Hudsons Hope and St. John, (75-76) facing p. 60.
 below Parle-pas Rapid, (75-76) facing p. 86.
 from hill behind Dunvegan, looking up, (79-80) facing p. 50 B.
 Pillar Rock, Pillar Bay, Graham Island, Q.C.Is., (78-79) facing p. 40 B.
 Pine River, B.C., from The Precipice, (79-80) facing p. 38 B.
 Quesnel, B.C., section of insect and plant beds at, (75-76) p. 258.
 Richmond Gulf, outlet of, and Castle Peninsula, Hudson Bay, (77-78) facing p. 14 C.
 Ruisseau Castor, Gaspé, Que., coast at, (80-82) facing p. 24 DD.
 Robinson Portage, York boat at, on route to York Factory, (77-78) facing p. 5 CC.
 Skedans Village, Q.C.Is., houses and carved posts in, (78-79) facing p. 146 B.
 Skidegate, Q.C.Is., houses, carved posts and canoes at, (78-79) Frontispiece.
 Smoky River, Atha., near trail crossing, (79-80) facing p. 56 B.
 Standing Rock Rapid, Grass River, Nelson River, (78-79) facing p. 28 C.
 Ste. Anne des Monts, Que., sandstone pillar on coast near, (80-82) facing p. 26 DD.
 Summit Lake, Pine Pass and valley of Atunatche River, B.C., (79-80) B Frontispiece.
 Summit Lake and Limestone Mountains, Pine Pass, B.C., (79-80) facing p. 36 B.
 Table Mt. and Pine River Pass, (75-76) facing p. 54.
 Tanya-bunkut Lake, B.C., looking down, (76-77) facing p. 30.
 Ten Shilling Creek, near York Factory, (79-80) facing p. 2 C.
 Tête à Gauche Falls, N.B., (79-80) D Frontispiece.
 Toot-i-ai or Fawnies Mt., B.C., (76-77) facing p. 40.
 Upper Nechacco River, B.C., rapid on, south of Fort Fraser, (76-77) facing p. 44.
 Waterton River, N.W.T., boulder of Huronian quartzite on, (82-84) facing p. 148 C.

- Illustrations, list of—*Cont.*
 Wellington mine, B.C., engine house, (76-77) facing p. 180.
 York Factory, looking out to sea, (79-80) facing p. 16 C.
- Illustrations accompanying A. R. C. Selwyn's report, note on, (75-76) p. 31.
- Ilmenite or titanite iron-ores of Canada, general description of occurrences, with analyses, (1863) p. 501.
 note on occurrences of, in Laurentian rocks, (1863) p. 589.
 mode of occurrence of, (63-66) p. 214.
 general note on age of rocks bearing, occurrence of magnetite and ilmenite referred to, (73-74) p. 227.
 of Bay St. Paul, Que., note on occurrence and analyses of, (73-74) p. 227.
 in Quebec, at Bay St. Paul, Vaudreuil and St. Francis, Beauce, exposures of, (1863) p. 754.
 occurrence of, in Saguenay region, Que., localities, (82-84) pp. 8-9 D.
 from St. Jerome and St. Julien, Que., analyses of, (73-74) p. 227.
 with magnetite, in titanite iron-ores of Eastern Townships, Que., (73-74) p. 203.
 in St. Francis, Beauce, Que., (73-74) p. 206.
- Iltasyouco Falls, B.C., rocks at, (76-77) p. 61.
 microscopical description of felsite from, (76-77) p. 66.
- Iltasyouco River, B.C., general description of valley, fall on, (76-77) p. 28.
 rocks of, (76-77) pp. 60-63.
 fossils from Jurassic rocks of, (76-77) pp. 150-159.
- Image Point, Skidegate, Q.C.Is., hills bordering inlet, (78-79) p. 30 B.
 area occupied by agglomerate series, (78-79) p. 69 B.
- Imports of apatite and superphosphates, etc., into United States for 1883, (82-84) p. 21 J.
- Importations of English salt, note on, (74-75) p. 269.
- Impurities in brines and removal of, (63-66) p. 265.
- Inari, west coast Hudson Bay, assay of pyrites from, (78-79) p. 23 H.
- Incantation for wind, method among Haida Indians, (78-79) p. 124 B.
- Inclusions, of diorite in syenite, Marble Mountain, Inverness Co., N.S., wood-cut showing, (79-80) p. 22 F.
 in granite area of York and Carleton Cos., N.B., note on, (82-84) p. 24 G.
- Incrusting boilers, Goderich salt works, (66-69) E. p. 224, F. p. 241.
- Index to the colours and signs employed on maps and sections of the Geological Survey, (80-82) facing p. 47.
- Index map, of coal and lignite outcrops, Bow and Belly River district, by G. M. Dawson, scale 8 m. = 1 in., accompanying, (80-82) B.
 of Springhill coal-field, (73-74) facing p. 160.
- Indian Bay, Lake-of-the-Woods, Ont., assay of ore from east shore of, (82-84) p. 11 MM.
- Indian Bay, N.S., Bridgeport mine, formerly worked, (72-73) p. 252.
- Indian Bridge, at Salmon House, B.C., (76-77) p. 31.
- Indian Brook, St. Annes Bay, N.S., epidiotic syenite of, (76-77) p. 412.
 Silurian rocks of, (76-77) p. 430.
 iron-ore at, (76-77) p. 450.
 pre-Cambrian rocks of, (82-84) pp. 14-15 H.
 limestone and gypsum on shore north of, (82-84) p. 52 H.
 general description of valley of, (82-84) p. 80 H.
- Indian carvings, description of slate used by natives of Q.C.Is., (72-73) p. 61.
 at La Roche Pécée, Souris River, Assa., (79-80) p. 17 A.
- Indian Cove, Point Lévis, Que., upthrow dislocation, conglomerate bands, (1863) p. 230.
- Indian Cove, Gaspé, Que., galena in fault in Gaspé Series, (1863) p. 400.
 galena veins at, referred to, (1863) p. 517.
 fossils of upper division of Devonian of Gaspé, (80-82) pp. 13-14 DD.
 note on galena from, (80-82) p. 15 DD.
- Indian Cove seam, Sydney, N.S., section of, (72-73) p. 242.
 equivalent to No. 3 of Victoria mine, N.S., Northern Head seam, Lingan and Blackrock, and New Campbellton seams, (73-74) p. 179.
 sections at various pits, (74-75) pp. 233, 236-237.
 note on work done on, (74-75) p. 240.
see also Number Three seam.
- Indian Creek, Richmond Co., N.S., sandstone resembling Millstone Grit at, (79-80) p. 67 F.
- Indian Farm, Pincher Creek, Alta., analysis of lignite coal from, (82-84) p. 29 M.
- Indian Farm Creek, Pincher Creek, Alta., coal seam at Indian Farm, position of seam, analysis of, (80-82) pp. 17-18 B.
- Indian Head, Newfoundland, reference to anorthosite rocks of, (1863) p. 66.
- Indian Hill, Richmond Co., N.S., scenery of surroundings at, (77-78) p. 25 F.
- Indian House at Gatcho Lake, B.C., (76-77) p. 27.
- Indian implements and manufactures, collection of from British Columbia, added to Museum, (80-82) p. 2.
- Indian Island, Hamilton Inlet, copper-pyrites from, (82-84) p. 12 DD.

- Indian Island, Whycocomagh, N.S., gypsum and limestone exposures. (82-84) p. 49 H.
- Indian Islands, Georgian Bay, Ont., rocks probably of Trenton Group, (1863) p. 193.
- Indian Mountain, N.B., Kingston Series (Huronian) recognized at, (77-78) p. 11 D.
- Indian names, method of spelling, (76-77) p. 18.
- of places in region in vicinity of Bow and Belly Rivers, Alta., (82-84) pp. 158-167 C.
- of places, Shuswap Lakes, B.C., (77-78) p. 26 B.
- Indian paintings on cliff on Pai-musk-tabansipi, near Molson Lake, Nelson River, (79-80) p. 7 C.
- Indian Point, Cascapedia Bay, Bay of Chaleurs, rocks exposed at, (1863) p. 445.
- eastern boundary of Bonaventure Formation at, (1863) p. 448.
- Indian Point, Cape Breton Island, N.S., iron-ore from, analysis of, (76-77) p. 476
- Indian population of vicinity of Salmon River Crossing, British Columbia, (76-77) p. 29.
- of Northern British Columbia, note on, (79-80) pp. 30-31 B.
- of Skeena Valley, B.C., (79-80) p. 20 B.
- Indian Reserve, Richmond Co., N.S., marble on (76-77) p. 427.
- timber and soil of, (76-77) p. 449.
- diorite, intrusive rocks on, (77-78) p. 19 F.
- Salmon Creek, N.S., character of soil, scenery near, (77-78) p. 25 F.
- Indian Reserve Island, Cross Lake, Nelson River, Huronian rocks of, (77-78) p. 19 CC.
- Indian River, Lanark, Ont., banded limestones south of, (74-75) p. 143.
- Indian salmon fishery, on Salmon River, B.C., (76-77) p. 31.
- Indian village, situated on Anthony Island, Q.C.Is., (78-79) p. 15 B.
- on Masset Sound, B.C., (78-79) p. 35 B.
- (Tartanne) on North Island, Q.C.Is., (78-79) p. 39 B.
- Indian villages of Masset Inlet, Q.C.Is., description of, (78-79) pp. 163-164 B.
- (deserted) on Parry Passage, Q.C.Is., (78-79) p. 40 B.
- on Virago Sound, Q.C.Is., (78-79) p. 39 B.
- Indians, of central part of British Columbia, note on, (71-72) pp. 71-72.
- in Pine River Pass, note on, (79-80) p. 45 B.
- of Queen Charlotte Islands, the Haidas, by G. M. Dawson, (78-79) pp. 103-175 B.
- of Queen Charlotte Islands, estimate of number, (78-79) pp. 171-175 B.
- Indiana, Ont., occurrence of gypsum at noted, (1863) p. 348.
- Indiantown, N.B., section of Laurentian rocks, (70-71) pp. 34-35.
- Indigenous rocks, definition of term, (1863) p. 647.
- referred to, (63-66) p. 192.
- Indurated clay, from Souris City, Man., experiments with, for brick making, (80-82) pp. 2-3 H.
- from Quesnel, B.C., examined, (71-72) p. 67.
- Industry, Que., Chazy Formation at, (1863) p. 133.
- exposures of Trenton Group on Assumption River, (1863) p. 148.
- saline spring near, reference to analysis, (1863) p. 539.
- bog-ore deposits near, (1863) p. 685.
- limestone for building purposes quarried at, (1863) p. 819.
- Infusorial earth, note on uses for, (78-79) p. 6 H.
- deposit of on Petewawa River, Que., (1863) p. 930
- from Pollet River, N.B., microscopical examination and analysis, (78-79) pp. 4-6 H.
- in Southern New Brunswick, note on deposit at Pollet River Lake, (78-79) p. 26 D.
- from Pollet River Lake, Kings Co., N.B., analysis and experiments for fire brick, (79-80) pp. 3-6 H.
- INGALL, LIEUT. F. L., reference to mineralogical work for Canadian Government by, (1863) p. xi.
- Ingersoll, Ont., thickness of clay at, (1863) p. 903.
- Ingonish, N.S., pre-Cambrian rocks of vicinity, (82-84) pp. 16-17 H.
- Lower Carboniferous rocks of, (82-84) p. 46 H.
- description of scenery at, (82-84) p. 86 H.
- Ingonish Bay, N.S., Lower Carboniferous limestone series of, (82-84) p. 52 H.
- Ingonish Island, N.S., rocks composing, (82-84) p. 16 H.
- Ingonish Map-sheet, N.S., issued 1884, scale 1 m. = 1 in.
- Ingonish River, Victoria Co., N.S., crystalline limestones of, (82-84) pp. 36-37 H.
- pre-Cambrian rocks on, (82-84) p. 16 H.
- INGRAHAM, CAPT. JOSEPH, note on voyage of, to Queen Charlotte Islands, (78-79) p. 11 B.
- INGRAHAM, MR., work done by, on Indian Cove seam, N.S., (74-75) p. 240.
- Ingraham coal seam, thickness of at Sydney Harbour, N.S., (74-75) p. 187.
- probable representative of, in Point Aconi section, (74-75) p. 248.
- results of trial pits and borings on, (74-75) p. 194.
- Ingraham Slope, Block House mine, N.S., (72-73) p. 280.
- Inhabitants of Magdalen Islands, Que., note on, (79-80) p. 11 G.
- Inhabitants Basin, Richmond and Inverness Cos., N.S., Carboniferous rocks of, (79-80) pp. 69-96 F.
- sandstone blocks on shores near Little River, (79-80) p. 71 F.
- Inheritance of property among Haida Indians (78-79) p. 133 B.

- Initiation of Indian Medicine Man, Haida Indians, (78-79) p. 122 B.
- Inner Barn, Wabinoash Bay, Lake Nipigon, Ont., height of, (66-69) E. p. 349, F. p. 386.
limestones at base of trap, height of, (71-72) p. 104.
analysis of hematite from, (73-74) p. 225.
- Inner Island, Logan Inlet, Q.C.Is., description of, (78-79) pp. 25-26 B.
- Inoceramus* sp. from Falls of Iltasyouco River, B.C., (76-77) p. 152.
- Insect bed of Lignite Formation of Quesnel, B.C., section and illustration, (75-76) p. 258.
- Insect remains in terraces at Fredericton, N.B., referred to, (82-84) p. 38 G.G.
discovered at Quesnel, B.C., in Lignite Formation, (75-76) p. 258.
- Insects, from the Tertiary beds at Quesnel, B.C., descriptions by S. H. Scudder, (75-76) pp. 266-280.
notes on, by S. H. Scudder, (76-77) pp. 457-464.
from interior of British Columbia, collected in 1877 by G. M. Dawson, descriptions by S. H. Scudder, (77-78) pp. 175-185.
- Inskip Channel, west side Moresby I., description of, (78-79) p. 41 B.
- Inspection of salt necessary, (74-75) p. 281.
- Instruments purchased by Geological Survey from Logan estate, (80-82) p. 11.
- Intercalated lodes, Sherbrooke gold district, N.S., description of, by H. Y. Hind, (70-71) p. 260.
- Intercolonial Coal Mining Co. of Montreal, Bear Creek area in Nova Scotia, (66-69) E. p. 100, F. p. 112.
Drummond Colliery workings, etc., (66-69) E. p. 100, F. p. 112.
railway, wharf, etc., in Pictou Coal-fields, (66-69) E. pp. 101-102, F. pp. 113-114.
gas trials of coals, at Pictou gas works, (66-69) E. p. 434, F. p. 484.
trial of Drummond coal as steam producer on railway, (66-69) E. p. 407, F. p. 451.
- Interior Plateau of British Columbia, general characters, elevation, (77-78) pp. 5-6 B.
rocks of, suitable for building stone, (77-78) p. 164 B.
- Interglacial deposits on Belly River, Alta., sections and diagrammatic sections Wolf Island and Driftwood Bend, (82-84) pp. 144 C.
relative elevations of, showing subsequent uplift to west, (82-84) p. 151 C.
- Interglacial peat-beds of Driftwood Bend, Belly River, Alta., analysis of, (82-84) p. 144 C.
- Internal heat of the earth, note on, (1863) pp. 579-580.
- International Boundary, L. Superior, to White-wood Lake, report by R. Bell on traverse of canoe route, notes on rocks and general character of country, (72-73) pp. 92-94.
- International Mine, Sydney, N.S., area of property, thickness of coal seams, (72-73) p. 256.
Harbour seam, thickness and quality, (72-73) p. 257.
workings (old), railway, (72-73) p. 257.
production, (72-73) p. 258.
surface workings, (72-73) p. 258.
underground workings, drainage, ventilation and production, (72-73) pp. 258-259.
statistics of output, force employed, plant, (72-73) p. 290.
analysis of coal from Harbour seam, (74-75) p. 221.
- International Railway, N.S., length, rolling stock, wharf, (72-73) p. 258.
- International Salt Works, Goderich, Ont., capacity of, (74-75) p. 270.
record of well at, (74-75) p. 285.
- International well near Goderich, Ont., strata passed through, (76-77) p. 227.
- Intervale land in Cape Breton Island, N.S., (76-77) p. 448.
- Intervales, note on, in Northern Cape Breton, (82-84) pp. 81-82 H.
- Intricaria? reticulata*, Hall, wood-cut of, (1863) p. 158.
- Intrusive dykes and granites in Huronian, general note on, (1863) p. 58.
- Intrusive granites, origin of, Selwyn's theory of metamorphism, (79-80) pp. 5-6.
on headwaters of Little Cascapedia River, (82-84) p. 21 E.
of Southern New Brunswick, extent of area, (70-71) pp. 180-181.
relations to surrounding groups, (70-71) p. 181.
age of, (70-71) pp. 181-182.
varieties of, in district, (70-71) p. 182.
- Intrusive masses forming mountains in Ottawa Valley, (1863) p. 9.
- Intrusive rocks, theory of formation of, (1863) p. 643.
classification of, (1863) pp. 645-646.
rare in altered regions, (1863) p. 585.
at Cumshewa Inlet, Q.C.Is., (78-79) p. 77 B.
of Gaspé, Que., reference to descriptions (1863) p. 670.
in Laurentian System, (1863) pp. 652-655.
general description of, age of intrusions (1863) pp. 37-42.
of Southern New Brunswick, general distribution of, (78-79) p. 23 D.
of the Palaeozoic series in Ontario and Quebec, (1863) pp. 655-670.
note on age of, (1863) pp. 668-669.
- Intrusive syenite in Huronian of Bachewanung Bay, (1863) p. 63.
- Intrusions along line of anticline in Cretaceous, Little Rocky Mts. and Sweet Grass Hills, U.S.A., (82-84) pp. 121-122 C.
- Inverhuron, Ont., salt-well bored at, note on, (74-75) p. 287.
boring at, for salt, (76-77) p. 223.

- Inverness Co., N.S., record of mines and coal statistics for 1869-71, (71-72) p. 149.
 Coal-fields of Broad Cove and Mabou, (73-74) pp. 182-183.
 analyses of coal from the seams worked, (73-74) pp. 188-191.
 report on geology of part of, included in, (79-80) pp. 1-125 F.
 pre-Cambrian or George River limestone of, (79-80) pp. 17-32 F.
 Devonian rocks of, (79-80) pp. 50-54 F.
 character of interior of northern part, rocks exposed in, (80-82) pp. 7-8.
 report on geology of northern part of, included in, (82-84) pp. 5-98 H.
- Inverness Co., N.S., maps issued in 1884, scale 1 m. = 1 in.: Sheets Nos. 1, 3, 5, 6, 8, 9, 10, 11, 13, 14, 15, 16, 18, 19, 21 and 22.
- Inverness coal-field, N.S., descriptions and sections of, (82-84) pp. 53-76 H.
- Inverness Tp., Que., note on specular schists of, (1863) p. 681.
 copper-bearing beds traced in, (1863) p. 724.
 copper localities in, (63-66) p. 319.
 analysis of magnetic iron-ore from, (73-74) p. 210.
- Inversion of strata in Cape Dauphin District, N.S., (74-75) p. 258.
- Invertebrata, marine, in Leda clay of New Brunswick, list of, (77-78) pp. 29-30 EE.
 recent, from the Queen Charlotte Islands, list by J. F. Whiteaves, (78-79) pp. 190-205 B.
- Inverted section of pre-Silurian in Carlton, N.B., (77-78) p. 24 DD.
- Iodides, note on presence of, in mineral waters of Canada, (1863) p. 554.
- Iodine, manufacture of, from apatite, Villetle-Paris, France, (77-78) p. 13 H.
 and bromine in apatite, (77-78) pp. 12-14 H.
- Iolite in Laurentian of Bavaria and Bohemia, (63-66) p. 196.
- Iowa, U.S.A., note on comparative table of rock formations of, (1863) p. 935.
- Irasburgh, Vt., analysis of nacreous shale from, (1863) p. 602.
- Ireland Tp., Que., serpentine band in, (1863) p. 254.
 copper localities in, (63-66) p. 319.
 copper-bearing rocks traced through, (1863) p. 724.
- Iridosmine, supposed to have been recognized with gold at Rivière du Loup, Que., (1863) p. 520.
- Irish Cove, N.S., Laurentian rocks of, (76-77) p. 420.
 fossils at, (76-77) p. 446.
- Irish Point, near Orid Islands, Arichat, N.S., Devonian rocks of, (79-80) p. 37 F.
- Irish Settlement, near Cascapedia, Bay of Chaleurs, Blue Lakes, gray marl in, (80-82) p. 20 D.
- Irishtown, St. John Co., N.B., Coastal Series of Huronian, (70-71) p. 97.
- Irishtown Settlement, near Percé, Que., Devonian conglomerates in, (80-82) p. 4 DD.
- Iron, analysis of, from St. Maurice Forges, Que., (66-69) E. p. 257, F. p. 284.
 pig, from Bay St. Paul furnace, by Riley, (73-74) p. 250.
 pig, from ore of Iron Ore Hill, Carleton Co., N.B., (74-75) p. 104.
 pig, from Londonderry Furnaces, N.S., (73-74) p. 255.
 gray pig, St. Maurice Forges, Que., (73-74) p. 248.
- Iron, produced from bog-ore, characters of, (73-74) p. 235.
 production of, at Hull, Que., cost per ton, (66-69) E. p. 255, F. p. 282.
 by direct processes, résumé of history of, (66-69) E. p. 270, F. p. 298.
 manufactured in North Hastings, Ont., (63-66) pp. 107-113.
 percentage in various samples of clay iron-stone, (73-74) p. 242.
- Iron and iron-ores of the Dominion, by T. Sterry Hunt, (66-69) E. pp. 244-304, F. 270-336.
 general classification, (66-69) E. p. 245, F. p. 271.
- Iron and steel, manufactures of by direct methods, (66-69) E. pp. 269-304, F. pp. 298-336.
- Iron, meteoric, from Madoc, Ont., description of meteor, (1863) p. 508.
- Iron, carbonate of, note on occurrence of, (1863) p. 508-509.
- Iron, oxalate of, reference to occurrence of at Kettle Point, Bosanquet, Ont., (1863) p. 513.
- Iron, oxide of, removal from sediments through decaying organic matter, (1863) p. 573.
 in dyke on Meganatawan River, Ont., (76-77) p. 202.
- Iron, peroxide of, reference to localities of occurrence in Ontario and Quebec, (1863) p. 509.
 general character of, with leading localities of occurrence in Ontario and Quebec, (1863) pp. 677-682.
- Iron, phosphate of, Vaudreuil Seig., Que., deposit of, with ochre bed, (1863) p. 770.
- Iron, purple compound of, Lorimer Lake, Ont., (76-77) p. 204.
- Iron, sulphuret of, note on occurrence of, in Ontario and Quebec, (1863) p. 513.
 uses in chemical manufactures, localities of occurrence, (1863) pp. 746-748.
- Iron, tungstate of, found at Lake Couchiching, analysis of, (1863) p. 503.
- Iron-bearing belt, Marmora, Ont., relation to gold belt, (71-72) p. 130.
- Iron ochres, of north side St. Lawrence River, Que., and of Middlesex Co., Ont., reference to, with analysis, (1863) pp. 511-513.
 notes on deposits of, in Canada, localities, (1863) pp. 767-770.

Iron-ores, origin of, (1863) p. 574.
 note on graphite in, (1863) p. 593.
 in Huronian, examples of, (1863) p. 596.
 of Missouri, Iron Mountain and Pilot Knob, note on, (1863) p. 66.
 in Laurentian, general note on, (1863) p. 37.
 of Norway and Sweden, (66-69) E. pp. 245-252, F. pp. 276-280.
 of Utoë and Finland, (63-66) p. 195.
 of America, used in bloomery furnaces, (66-69) E. p. 276, F. p. 305
 work in laboratory on, (72-73) p. 6.
 classification of, (73-74) p. 193.
 concentrating processes in nature, (73-74) p. 193.
 of Canada, and their development, by B. J. Harrington, (73-74) pp. 192-259.
 notes on blast-furnaces in operation in Canada, (73-74) pp. 246-259.
 shipped to United States from 1870-73, (73-74) p. 257.
 general descriptions and occurrences of, in Ontario and Quebec, (1863) pp. 508-514.
 descriptions of localities and analyses of, (1863) pp. 672-687.
 chromic, general characters of, reference to, occurrences in Canada, value of ore, (1863) pp. 748-750.
 note on deposits of, localities, (1863) p. 504.
 see also Chromic iron-ore.
 magnetic, notes on, with localities, (1863) pp. 509, 672-677.
 general characters of, chemical constituents, (1863) p. 672.
 specular, general characters of, principal localities of occurrence in Ontario and Quebec, (1863) pp. 677-682.
 titanic, with note on occurrence of, in Canada, (1863) pp. 501-502.
see also Ilmenite.

Iron-ores in Nova Scotia:—
 from Acadia iron mines, analyses of, (72-73) pp. 29-31.
 from Big Pond and Whykokomagh, analysis of, (75-76) p. 415.
 from Cape Breton, analyses of, (75-76) pp. 414-415.
 in Cape Breton Island, (76-77) pp. 449-450.
 note on localities, and quality of ore, (82-84) pp. 91-92 H.
 from East Bay, analysis of, (76-77) p. 473.
 in French Vale and Gabarus Bay, Cape Breton Co., (77-78) p. 28 F.
 of Gillis and Matheson location, (76-77) pp. 441, 449.
 of Londonderry, N.S., report by A. R. C. Selwyn, (72-73) pp. 19-27.
 from Londonderry, yellow and red ore, analyses of, (72-73) p. 27.
 near McSween Brook, St. Andrew Channel, (75-76) p. 392.
 of Pictou Co., by E. Hartley, (66-69) E. pp. 438-442, F. pp. 490-494.
 desirability of working, natural advantages, (73-74) p. 259.
 spathic, from Polsons Lake, composition of, (76-77) p. 476.

Iron ores in Nova Scotia—*Cont.*
 of Richmond, Inverness and Guysborough Cos., notes on, (79-80) pp. 121-122 F.
 from Stewart Pond, Guysborough Co., (79-80) p. 14 H
 in Carboniferous at Sydney, (73-74) p. 176.
 from Gairloch Mountain, Middle River, (79-80) p. 14 H.

Iron-ores in New Brunswick:—
 of Beccaguimic River, (66-69) E. p. 208, F. p. 231.
 of Carleton Co., N.B., report by R. W. Ells, with map, (74-75) pp. 97-104.
 general distribution, (74-75) pp. 97-98.
 from Iron-ore Hill, analysis by John Mitchell, (74-75) p. 104.
 at Jacksontown, character, occurrence, (66-69) E. p. 207, F. p. 230.
 note on deposit of Lords Cove, (78-79) p. 24 D.
 of Nerepis Valley, Summer Hill and Peltooma, (72-73) pp. 227-230.
 on Oak Mountain, note on, (82-84) p. 27 G.
 of Southern New Brunswick, (70-71) pp. 222-223.

Iron-ores in Quebec:—
 titanic, note on exposures, Vaudreuil, Beauce, Bay St. Paul, (1863) p. 754.
 statistics for 1869-71, (71-72) p. 148.
 mining localities, notes on, (80-82) p. 3 GG.
 characterizing Lower beds of Sillery Formation, (63-66) p. 37.
 character of, in Bristol and Foley mines, (76-77) p. 247.
 of Bolton and Ham Tps., chromic, (63-66) pp. 43-44.
 on Gatineau River, not continuous, (76-77) pp. 297-298.
 of Lake Champlain, yield of, (63-66) p. 112.
 report on, in Ottawa region, (76-77) pp. 296-297.
 in Ottawa Co., further discoveries of, (76-77) p. 296.
 of Ottawa Co., horizons of, (76-77) p. 296.
 of Paint Mountain, Lake Abatagomaw, (70-71) p. 296.
 discovered at St. Jerome, notice of, (79-80) p. 3.
 from Shawenegan, and St. Julienne, titanic acid in, (76-77) p. 474.
 in South Sherbrooke Tp., (72-73) pp. 174-175.

Iron-ores in Ontario:—
 statistics for 1869-71, (71-72) p. 147.
 from Algoma mine, Thunder Bay, (66-69) E. p. 324, F. p. 357.
 of Bachewanung Bay and Gros Cap, Lake Superior, (63-66) pp. 129-132.
 in Bathurst Tp., Ont., Gordon's, (74-75) p. 118.
 in Bedford, Ont., Howse deposits, (74-75) p. 118.
 shipment of ore, character and extent, (74-75) p. 119.
 section showing horizon of ore, (74-75) p. 120.
 of Belmont Tp., former reports on mining of, (66-69) E. p. 258, F. p. 286.

Iron-ores in Ontario—*Cont.*

from Belmont Tp., impurities in, analysis of, (66-69) E. p. 258, F. p. 286.
 of Belmont, Marmora and Madoc Tps., correlated, (68-69) p. 6 Summ.
 at Eagle Lake, Ont., (74-75) pp. 112-114.
 of Fitzroy Tp., crystals of magnetic, (76-77) p. 247.
 of Foley Tp., magnetic, (76-77) p. 200.
 occurring in Frontenac, Leeds and Lanark Cos., notes and assays, (71-72) pp. 121-123.
 Frontenac, Ont., extract from Murray's report, horizon of Wolf Lake ore beds, (74-75) p. 117.
 Frontenac, Leeds and Lanark Cos., three horizons of, (74-75) p. 122.
 of Frontenac, Leeds and Lanark Cos., magnetic, (70-71) pp. 312-314.
 of Gros Cap, Lake Superior, (63-66) p. 130.
 specular, of vicinity of Gros Cap, Lake Superior, (76-77) p. 220.
 from Lutterworth Tp., Halliburton Co., analysis of, (78-79) pp. 15-16 H.
 of Hastings Co., productive and non-productive localities, (63-66) p. 103.
 and jasper from Kaministiquia River, near the Mattawa, (66-69) E. p. 330, F. p. 364.
 along Kingston and Pembroke Railway, Ont., (74-75) pp. 112-122.
 note on occurrences of magnetite on Knee Lake, at mouth of Trout River, (78-79) p. 36 C.
 at 8th portage Lac des Quinze, Ottawa River, magnetic, (72-73) p. 131.
 of Lakes Opsatika and Abitibi, (72-73) p. 132.
 of Lanark, Leeds and Frontenac Cos., Ont., (74-75) pp. 112-122.
 of Lamirondiere Bay, magnetic, (76-77) p. 209.
 on Little Pic River and Long Lake, Algoma, (70-71) p. 388.
 of Madoc, Marmora and Belmont Tps., (66-69) E. p. 150, F. p. 166.
 at foot of Grand Rapids of Mattagami River, Ont., (75-76) p. 321.
 of Michipicoten vicinity, Lake Superior, (76-77) p. 220.
 of Mill Lake, magnetic, (76-77) p. 205.
 of Mitchell's location, North Crosby, (74-75) p. 118.
 from Moose River, assay of, (75-76) p. 431.
 of Meyers Lake, south shore, South Sherbrooke Tp., Ont., (74-75) p. 118.
 in North Crosby Tp., Ont., Allan's deposit, analysis of ore, extent of beds, (74-75) p. 121.
 of Spectacle Lake, note on, (74-75) p. 117.
 of North Hastings Co., localities, (66-69) E. p. 160, F. p. 178.
 in vicinity of limestone bands in Olden and Oro Tps., (72-73) p. 161.
 from Pickerel River, Michipicoten, analysis of magnetite, (78-79) p. 15 H.
 in Renfrew Co., horizons of, (76-77) p. 247.
 from Silver Lake, Lanark Co., analysis of, (74-75) p. 116.
 vicinity of Shibaonaning, Lake Huron, magnetic, (76-77) p. 210.

Iron-ores in Ontario—*Cont.*

of Thunder Bay and Nipigon districts, (66-69) E. p. 358, F. p. 395.
 of Torbolton Tp., horizon, (76-77) p. 247.
 Iron-ores in the North-west and North-east Territories:—
 of Athabasca Valley, note on, (82-84) pp. 30-31 CC.
 from Dirt Hills, ironstone nodules, quantity and quality, (73-74) p. 78.
 note on occurrence of ore in rocks of East Main Coast, (77-78) pp. 21-22 C.
 from Knee Lake, Keewatin, (78-79) p. 15 H.
 from Nastapoka Snd., Hudson Bay, note on, (77-78) p. 16 C.
 from White Mud River, south of Fort Pelly, assay of, (75-76) p. 431.
 Iron-ores in British Columbia:—
 list of localities of, (76-77) p. 146.
 from Fraser River, mouth of Quesnel River, analysis of, (71-72) p. 67.
 at Harriet Harbour, Skincuttle Inlet, Q.C. Is., description of deposit, (78-79) p. 54 B.
 analysis of magnetite, (78-79) p. 14 H.
 from Q.C. Is. and Vancouver Island, notes by B. J. Harrington on, (72-73) pp. 81-82.
 in Southern British Columbia, note on occurrences, (77-78) p. 162 B.
 of Texada Island, Strait of Georgia, mode of occurrence, thickness, facilities for shipment, (73-74) pp. 99-100.
 mode of occurrence and analysis of, (76-77) pp. 129, 475.
 localities reported from Vancouver Island and mainland of British Columbia, (73-74) pp. 99-101.
 Iron Island, L. Nipissing, Ont., heavy spar reported on, (1863) p. 458.
 fluor-spar in fissures of limestone noted on, (1863) p. 463.
 fluor-spar and heavy-spar on, (63-66) p. 202.
 deposits of iron-ore on, (1863) p. 878.
 crystalline limestone of, (76-77) p. 203.
 Iron Island, Island Lake, Keewatin, dark green serpentine on, (78-79) p. 37 C.
 Iron mines, examinations by B. J. Harrington, summary of, (73-74) p. 8.
 of Bristol Tp., Que., (76-77) p. 297.
 at Curry's farm, N.S., rocks of, (76-77) p. 426.
 in Ontario, note on mines in Bedford, Wollaston and Madoc Tps., (82-84) pp. 10-11 L.
 statistics for Nova Scotia to 1871, (71-72) p. 149.
 Iron Mine Brook, Skye Mountain, N.S., igneous rocks of, (82-84) p. 34 H.
 Iron Mountain, Nicola Valley, B.C., iron-ore of, (76-77) p. 146.
 benches and drift deposits, general glaciation, vegetation on, (76-77) pp. 32-33 B.
 age of volcanic rocks of, specular iron-ore on, (77-78) p. 122 B.
 glaciation of, (77-78) p. 136 B.
 elevation of terraces on, (77-78) p. 145 B.
 Iron Mountain, Missouri, reference to rocks of, (1863) p. 66.

- Iron Point, Carpenter Bay, Q.C.Is., note on rocks of, (78-79) p. 51 B.
- Iron Ore Hill, Carleton Co., N.B., analysis of ore by John Mitchell, (74-75) p. 104.
- analysis of pig iron by Mr. Wendt, (74-75) p. 104.
- description of ore-beds, iron-ore mined, amount of from, (74-75) p. 98.
- Iron-ore bed in Clinton Formation at Cabots Head, Georgian Bay, fossils of, (1863) p. 320.
- at Marmora, Ont., (66-69) E. p. 151, F. p. 168.
- of Rochester, N.Y., represented in section of Clinton, near Dundas, Ont., (1863) p. 314.
- in Marmora Tp., Ont., traced in detail, (66-69) E. p. 151, F. 167.
- Iron-ore belt in Div. B, Hastings Series, (66-69) E. p. 150, F. p. 166.
- Iron-pyrites, analyses and assays:—
- from Burgess Tp., Ont., analysis of, (63-66) p. 217.
- from Dalhousie Tp., Ont., assay of, for gold and silver, (79-80) p. 20 H.
- from Lake of the Woods, 25 miles southwest of Rat Portage, assay of, (78-79) p. 20 H.
- from Madoc Tp., Ont., partial analysis of, for copper and cobalt, (79-80) p. 21 H.
- from St. Jerome, Que., assay of, for gold, silver, nickel, cobalt and copper, (76-77) p. 482.
- Iron-pyrites, localities:—
- magnetic, note on occurrence of, in Ontario and Quebec, (1863) pp. 513-514.
- description of, uses of in chemical manufacture, occurrences of in Canada, (1863) pp. 746-748.
- at Cap Choyé, Lake Superior, (76-77) p. 219.
- of Fairy Lake, north of Georgian Bay, (76-77) p. 212.
- of vicinity of Garden River, Ont., (76-77) p. 211.
- veins of, at Gros Cap, Lake Superior, (76-77) p. 220.
- reported on Goulais River, Lake Superior, p. 337.
- in Laurentian, (63-66) p. 217.
- containing nickel and cobalt, from Londonderry, N.S., percentages, (74-75) p. 14.
- of McKenzie Tp., Ont., (76-77) p. 206.
- in Madoc, Marmora and Elzevir Tps., Ont., (63-66) p. 107.
- at Meganatawan River, Ont., (76-77) p. 202.
- in Southern New Brunswick, (70-71) p. 223.
- from Paint River and Sturgeon River, Lake Nipigon, (71-72) p. 104.
- at Roberts Bay, Ont., (76-77) p. 207.
- of Stobies slate location, near Echo Lake, Ont., (76-77) p. 210.
- of Victoria mine, near Garden River, Ont., (76-77) pp. 212-213.
- statistics for Ontario, 1869-71, (71-72) p. 147.
- Iron sands, trials of manufacturing iron from, by Elliott, (66-69) E. p. 262, F. p. 290.
- separation of magnetic portion, method of analysis, (66-69) E. p. 266, F. p. 295.
- Iron sands—*Cont.*
- various methods of smelting, (66-69) E. p. 291, F. p. 321.
- note on localities and age of deposits, (73-74) p. 207.
- of Bersemis, Que., description of deposit, (66-69) E. p. 266, F. p. 294.
- of Canada, general description, (66-69) E. pp. 261-269, F. pp. 288-298.
- first smelted by Wm. Molson, (66-69) E. 264, F. p. 290.
- of Chaudière, Que., (66-69) E. p. 261, F. p. 289.
- magnetic, occurrence of on East Main Coast, (77-78) p. 22 C.
- on Hair Cutting River, Que., (70-71) p. 300.
- deposits at Moisie, Que., (66-69) E. p. 264, F. p. 292.
- of New Zealand and North America, (66-69) E. p. 262, F. p. 290.
- in Beach near Red Head, Grand Manan Island, (70-71) p. 221.
- of Rocky Bay, Madame Is., N.S., referred to, (79-80) p. 122 F.
- deposits on St. Lawrence and at Mingan Is., (66-69) E. p. 266, F. p. 294.
- of the north shore of the St. Lawrence, (66-69) E. pp. 307-308, F. p. 340-341.
- of the Western Lakes, history of early working, (66-69) E. p. 262, F. p. 290.
- Iron, silicate of, description of lievrite with analysis, (1863) p. 465.
- Iron smelting, possibility of, in British Columbia, (76-77) p. 130.
- Ironbound Cove, Salmon River, N.B., openings for coal at, (72-73) p. 204.
- Ironstone, occurrence of, in British Columbia, (76-77) p. 130.
- in Gaspé sandstones, value of, (1863) p. 682.
- from Great Valley, 49th parallel, analysis of, (79-80) p. 48 A.
- of Hat Creek, B.C., (77-78) p. 120 B.
- of Lignite Tertiary, mode of occurrence and character, (79-80) p. 48 A.
- of North-western Manitoba, percentage of iron in, (74-75) p. 68.
- of Cretaceous rocks of Forks of Pine River, (79-80) p. 118 B.
- from Smoky River, percentage of metallic iron in, (79-80) p. 123 B.
- Ironstone concretions in Belly River Series, Bow River, Alta., (82-84) p. 91 C.
- Ironstone nodules, at base of Dirt Hills, N.W.T., character and quality of iron-ore, (73-74) p. 78.
- in banks of Peace River, (75-76) p. 88.
- at South Saskatchewan Crossing, (73-74) p. 31.
- Ironwood, note on range of, in Canada, (79-80) p. 52 C.
- Iroquois Creek, west of McLeod Lake, B.C., shales and sandstones of, gold reported, (75-76) p. 79.
- timber and plants recorded, (75-76) p. 140.
- valley at trail crossing, (79-80) p. 32 B.
- Iroquois Portage, Magdalen River, Que., *see* Mountain Portage.

- Irrigation in British Columbia, examples of effects of, (71-72) p. 68.
- Irruptive and eruptive rocks of Bay of Chaleurs and vicinity, (80-82) pp. 17-19 D.
- IRVING, PROF. R., note on age of copper-bearing rocks of Lake Superior, (77-78) p. 9 A.
- Isaacs Harbour, N.S., note on extent of gold-bearing rocks of, workings, (82-84) p. 15.
- Isabella Point, Admiral Island, B.C., crystalline rocks near, (71-72) p. 90.
- Ischadites Canadensis*, Billings, wood-cut of, (1863) p. 309.
- Island Bay, Burnaby Strait, Q.C.Is., note on, (78-79) p. 20 B.
- Island Lake, Keewatin, route from Oxford House taken by A. S. Cochrane, (78-79) p. 30 C.
description of, (78-79) p. 31 C.
character of soil around, (78-79) p. 33 C.
note on timber of district, (78-79) p. 33 C.
observed strikes of gneiss around, (78-79) p. 35 C.
list of glacial striæ observed, (78-79) p. 41 C.
notes on Huronian rocks of, (78-79) p. 37 C.
assay of quartz from, (78-79) p. 21 H.
- Island Lake and Gods Lake, map of, on scale of 4 m. = 1 in. accompanying, (78-79) C.
- Island Lake River, Keewatin, description of, (78-79) p. 31 C.
observed strikes of gneiss on, (78-79) p. 35 C.
- Island of Orleans, Que., glauconite shales, (63-66) p. 33.
- Island Point, N.S., plaster quarries and iron-ore at, (76-77) pp. 445, 450.
red conglomerate at, (82-84) p. 53 H.
- Island Portage, Nipigon River, Ont., garnetiferous mica-schist at, (66-69) E. p. 339, F. 374.
- Island Portage, Kaministiquia River, Ont., mica schists of, (73-74) pp. 88, 91.
- Islands, of Bow River, Alta., note on, (82-84) p. 33 C.
in lower part of Churchill River, (78-79) p. 19 C.
of Lake Nipigon, Ont., loose sandstone boulders on, (71-72) p. 104.
in Nelson River, lower part of, (77-78) p. 12 CC.
in Skeena River, B.C., description of, (79-80) p. 12 B.
- Isle Bizard, Que., distribution of the Calciferous on, (1863) p. 114.
the Chazy Formation on, (1863) p. 131.
Lower Helderberg conglomerate, description of deposit on, (1863) p. 357.
limestone quarried at, for canal locks, (1863) p. 817.
limestone, useful as marble, red markings, (1863) p. 826.
- Isle au Chats, near Montreal Island, Que., Chazy Formation near, (1863) p. 131.
- Isle of Coves, Manitoulin Is., Ont., weathered Niagara limestones, (1863) p. 333.
- Isle à la Crosse Lake, N.W.T., limestone reported on, (82-84) p. 27 CC.
- Isle à la Crosse Mission, vegetables grown, want of early seeds, (75-76) p. 179.
- Isle Jésus, Que., distribution of Calciferous sandrock on, (1863) p. 114.
- Isle de Montagne, mountain or hill west of Smoky River, N.W.T., height and character, (79-80) p. 54 B.
- Isle la Motte, Lake Champlain, stone from, used in Victoria Bridge, Montreal, (1863) p. 141.
- Isle du Parisien, Lake Superior, sandstone of, (1863) p. 83.
- Isle Perrot, Que., Potsdam sandstone found at, (1863) p. 91.
beds of sandstone suitable for glass making, (1863) p. 800.
- Isle Ronde, Montreal, Que., Lower Helderberg conglomerate of, (1863) p. 357.
- Isle Royal, Lake Superior, note on trap rocks of, thickness, position in series, (1863) pp. 79-80.
chlorastrolite found in amygdaloid of, (1863) p. 481.
analysis of greenstone from, (1863) p. 605.
- Isle Royal mine, Lake Superior, cupriferous bed, (63-66) p. 161.
- Isle Royal vein, Portage Lake, Mich., (63-66) p. 161.
- Isle St. Ignace, Lake Superior, trap rocks of, (1863) p. 72.
see St. Ignace Island.
- Isle Verte, Seignory, Que., peat deposits noted, (1863) p. 783.
1st and 2nd divisions of Potsdam Formation, (66-69) E. p. 129, F. p. 144.
- Isles Kerouart, Q.C.Is., B.C., description of, reference to Dixon's description, (78-79) p. 14 B.
- Islet Point, near Carpenter Bay, Q.C.Is., argillites of, fossil found in, (78-79) p. 51 B.
- Islington Mission, Winnipeg River, note by H. Y. Hind on soil of, (72-73) p. 17.
- Isthmus Bay, Georgian Bay, fossils of Niagara found at, (1863) p. 332.
ridges above lake containing human remains, (1863) p. 912.
- Isthmus Point, Port Hood, N.S., section of Coal Measures along coast to Mabou River, (82-84) pp. 57-60 H.
- Itabirite, or specular schist in Quebec Group, near Shipton and St. Armand anticline, (1863) p. 245.
schists from Sutton and Brome, Que., examined, (1863) p. 615.
reference to descriptions and note on deposits of St. Armand, Sutton, Brome, Inverness, Bastard and Ancaster, (1863) pp. 678-682.

- It-cha Mountains, B.C., note on, (76-77) p. 26.
view of, from the west, (76-77) p. 37.
volcanic vent, illustration showing outline,
(76-77) facing p. 78.
- Ivys Corner, near Debec Junction, N.B., lime-
stone and lime, (82-84) p. 30 G.
- Iz-man Creek, Fraser River, B.C., green schists
similar to Whipsaw Creek rocks, (77-78)
p. 73 B.
- JACK, EDWARD, discovery of fossils in meta-
morphic slates of New Brunswick by,
(66-69) E. p. 190, F. p. 210.
information from, relative to Lower Car-
boniferous outlier, Carleton Co., N.B.,
(66-69) E. p. 197, F. p. 218.
notes on rocks of Little South-west Mira-
michi River, N.B., (70-71) p. 251.
examination of country east of Woodstock,
N.B., for iron-ores by, (74-75) p. 100.
- Jack-of-Clubs Creek, B.C., gold workings on,
(76-77) p. 135.
- Jack pine, note on northern range of in Canada,
(79-80) p. 46 C.
- Jack River, York Factory boat-route, general
description of, (77-78) p. 6 CC.
outlet of Knee Lake, Laurentian gneisses of,
(77-78) p. 22 CC.
- Jackass Mountain, Yale and Lytton road, B.C.,
heights, (71-72) p. 22.
height of hills, rocks of, (71-72) p. 60.
change in character of flora at, (75-76)
p. 121.
correlation of beds by fossil remains, (77-78)
pp. 108-109 B.
- Jackass Mountain Group, rocks of at Jackass
Mountain, B.C., (71-72) p. 60.
fossils found at Tatlayoco Lake, of Lower
Cretaceous age, Shasta Group, (75-76)
p. 253.
thickness of series on Tatlayoco Lake, B.C.,
(75-76) p. 254.
thickness of, (77-78) p. 169 B.
equivalent age given in table, (77-78)
p. 173 B.
relation to Porphyrite Series, (76-77) p. 58.
on Tai-uk Brook, B.C., (76-77) p. 68.
- Jacket or Jacquet River, Bay of Chaleurs, Bona-
venture Formation at mouth of, (1863)
p. 451.
- Jackfish Bay, Lake Superior, assay of silver ore
from, (76-77) p. 479.
- Jackfish Island, Lake Nipigon, Ont., felspar-
porphy of, (66-69) E. p. 348, F. p. 385.
- Jackfish Pond, Pic River, Ont., granite with
mica and patches of iron-ore, (70-71)
p. 329.
- Jackfish River, north of Battleford, Sask., de-
scription of trail crossing, (73-74) p. 33.
Dr. Hector's description of lake expan-
sion on, (73-74) p. 34.
- Jacks Falls, Winnipeg River, Huronian rocks
recorded by Keating, (72-73) p. 15.
- JACKSON, C. J., analysis of ankerite and ochre
ore from Londonderry, N.S., (72-73) p. 27.
- Jackson Rae mine, Templeton, Que., note on,
progress of work on, (80-82) p. 11 GG.
- Jackson Bay, Oxford Lake, Keewatin, strike
and dip of conglomerate, (78-79) p. 36 C.
- Jacksontown, N.B., the iron-ores of, product
and character, (66-69) E. p. 207, F. p. 230.
Palmer iron mine, beds containing ore,
amount of ore mined, (74-75) p. 99.
bands of ferruginous red and green slates
at, (66-69) E. p. 199, F. p. 221.
- Jacquet River, Bay of Chaleurs, Bonaventure
Formation at mouth of, (1863) p. 451.
exposures on coast near, Lower Carbonifer-
ous and Silurian, (79-80) p. 9 D.
felsite ridge along north side of, (79-80)
p. 37 D.
diabasic rocks north of, (79-80) p. 41 D.
- Jalun River, Graham Island, Q.C. Is., character
of, (78-79) p. 39 B.
latitude observation at mouth of, (78-79)
p. 236 B.
note on longitude of, (78-79) p. 239 B.
- James Bay, description of shores of southern
part, (75-76) p. 322.
the rocks of east coast of, minerals, (75-76)
p. 323.
varieties of boulders found on south shore,
(75-76) p. 325.
rock specimens from east coast, list of, (75-
76) p. 342.
general character of east coast, (77-78)
p. 11 C.
note on muddy water, extent of, (77-78)
pp. 27-28 C.
note on area, character of shores, rivers
entering, harbours in, (79-80) pp. 28-30 C.
general character of basin lying south of,
(75-76) pp. 338-339.
- James Bay Basin, note on climate, (75-76) p. 341.
- Janvrin Island, west of Madame Is., N.S., sec-
tions of Carboniferous rocks on north
shore, near Thomas Head, (79-80)
pp. 57-59 F.
- Japanese current on West Coast, affecting
climate, (79-80) p. 8 B.
- Jakes-Cartier Co., Que.:—
for general geology see Part I, p. 9.
- Jakes-Cartier River, Que., the Trenton Forma-
tion on, (1863) p. 155.
character of mineral water at Marcotte's
mill, (1863) p. 538.
analysis of mineral water from, (1863) p. 550.
Leda clay overlain by sand on, (1863) p. 921
- Jardin à Naveau, Bay of Chaleurs, Que., small
area of Carboniferous referred to, (1863)
p. 272.
small exposure of Bonaventure Formation,
(1863) p. 442.
- Jardin des Plantes, Paris, series of rocks pre-
sented to, (68-69) p. 4 Summ.
- JARVIS, E. W., information from, on routes
west of Thunder Bay, (72-73) p. 9.

- Jarvis, Ont., note on occurrence of petroleum in Corniferous limestone, (1863) p. 368.
- Jarvis Island, Lake Superior, work on vein of barytes and calc-spar, (72-73) p. 108.
- Jarvis Lake, Ont., glacial striæ, (74-75) p. 44.
- Jarvis River, east of Minnitakie River, Ont., (72-73) p. 101.
- Jasper, occurrence of in Ontario and Quebec, references to localities, (1863) p. 500.
note on occurrence of in Palæozoic rocks of Ontario and Quebec, (1863) p. 628.
in Sillery division in Ascot Tp. Que., (63-66) p. 40.
associated with hematite, Bachewanung Bay, Ont., (63-66) p. 130.
from Cape Rouge, Que., analysis of, (1863) p. 628.
of East Main coast, Hudson Bay, character of, (77-78) p. 23 C.
in Palæozoic rocks at Rivière Ouelle, and near Sherbrooke, Que., (1863) p. 599.
localities for, note on deposits of Sherbrooke, Rivière Ouelle and Lake Huron, (1863) p. 834.
bed of, at Scott's mine, lot 15, R. X., Hull, Que., (82-84) p. 16 L.
beds in section at Pointe aux Trembles, Lake Temiscouata, Que., (1863) p. 423.
and chalcedony, of Lower Clones and Washademoak Lake, N.B., (72-73) p. 229.
and iron-ore of Kaministiquia River, Ont., (66-69) E. p. 330, F. p. 364.
- Jasper conglomerate, in Huronian of Thessalon River, Ont., character and thickness, (1863) p. 57.
of Huronian, note on, (1863) p. 834.
boulders of, found on islands of Lake Huron, (1863) p. 894.
- Jasper rocks, Thunder Bay district, Ont., (66-69) E. p. 322, F. p. 355.
- Jawbone Creek, B.C., no pay gold found on, (76-77) p. 138.
- Jebogue Point, N.S., quartz vein examined for gold, (70-71) p. 272.
- Jemseg, Cambridge, N.B., list of fossil plants from, (72-73) p. 207.
- Jemseg River, N.B., thickness of Carboniferous east of, (72-73) p. 213.
- Jenkins Cove, Belisle Bay, N.B., rocks of, (70-71) p. 118.
Lower Carboniferous rocks, (70-71) p. 208.
- Jerome Brook, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 21 H.
deposits of copper ore, (82-84) p. 95 H.
- Jerome Pt., St. Peters, N.S., felsite and diorite at, (77-78) p. 19 F.
- Jersey Fall, Chaudière River, Que., rocks exposed at, (1863) p. 428.
- Jersey forge, improved German bloomery, note on, (66-69) E. p. 273, F. p. 301.
- Jerseyman Island, Arichat, N.S. Devonian rocks of, (79-80) p. 37 F.
- Jerusalem Settlement, Hampstead Parish, Queens Co., N.B., Huronian rocks of, (70-71) p. 65.
Upper Silurian rocks south of, (70-71) p. 167.
Lower Carboniferous belt through, (70-71) p. 212.
- Jervais River, Saguenay River, Que., occurrence of ilmenite on, (82-84) p. 9 D.
- Jessie Lake, Nipigon River, Ont., length of, (66-69) E. p. 337, F. p. 372.
- Jessor, JOHN, specimen of coal from Chilliwack River, B.C., sent by, (73-74) p. 99.
- Jessops Rapids, Bonnachère River, Ont., outlier of Trenton, (1863) p. 175.
- Jocelyn Creek, near St. John River, N.B., exposure of Carboniferous rocks and contact with lower rocks, (66-69) E. p. 188, F. p. 209.
- Joes Lake, Levant Tp., Ont., red gneiss area, extending to, (74-75) p. 130.
ferruginous dolomite containing copper ore, (74-75) p. 134.
traces of copper ore, (74-75) p. 162.
- Joes Point, St. Croix River, N.B., dolerites interstratified with Perry sandstone, (70-71) p. 201.
- Joggins, N.S., rocks of, similar to those of the Pictou coal-field, (66-69) E. p. 8, F. p. 8.
thickness of Carboniferous, (66-69) E. p. 52, F. p. 59.
Cumberland seam, analysis of manganiferous calcite from, (77-78) p. 38 G.
Coal Measures of, eastward extension defined, (73-74) p. 162.
- Joggins coal mine, N.S., galena from, (76-77) p. 481.
- Joggins main seam, N.S., bore-hole to prove seam, (75-76) p. 346.
- John River, B.C., Sooke District, rocks at, (76-77) p. 192.
- JOHNSON, W. R., report to U. S. navy on practical trials of Pictou coals, (66-69) E. pp. 410-421, F. pp. 455-469.
- Johnson Harbour, N.S., rocks of, (76-77) p. 447.
- Johnson's mine, Thetford Tp., Que., note on state of work in, (80-82) p. 7 GG.
- JOHNSTONE, HENRY, donations of bird skins to Museum, (78-79) p. 67 C.
- JOHNSTON, MATTHY & Co., London, analysis of Arctic Circle vein, Omenica, B.C., (79-80) p. 111 B.
- Johnston Mine, Charlotte Co., N.B., ores of, native copper, (76-77) p. 343.
- Johnstons Cove, St. Croix River, N.B., exposures of Mascarene Series on, (70-71) p. 153.
Perry sandstone of, (70-71) p. 201.
- Johnston's patent method of smelting iron-ores, note on, (66-69) E. p. 292, F. p. 323.
- Joints, in lodes in gold region of Nova Scotia, (70-71) p. 267.

Joliette Co., Que.:—

for general geology see *Part I*, p. 9.

note by H. G. Vennor on limestone bands and area of labradorite rocks, (79-80) p. 3.

Joly Tp., Que., mineral spring, character of water, (1863) p. 539.

analysis of mineral water from, (1863) p. 550.

Jones Cove, St. John River, N.B., section of rocks on south side, (70-71) p. 71.

Jones Creek, Kings Co., N.B., felsites of supposed Huronian age, (70-71) p. 68.

diorite interstratified with Upper Silurian, fossils found near mouth, (70-71) p. 166.

section of pre-Silurian west of, (77-78) pp. 26-27 DD.

to Catons Island, N.B., succession of rocks on shore of Long Reach, (70-71) p. 115.

Jones Creek, Keswick River, York Co., N.B., terraces formed by former ice dam, (82-84) p. 38 GG.

Jones' marble quarry, Elzevir Tp., Ont., [marble sent to Paris in 1855, (66-69) E. p. 149, F. p. 165.

Jones Mill, Rivière aux Sables, Ont., section of Hamilton Formation at, (1863) p. 383.

Jones Tract, near Cayuga, Ont., section of water-lime formation, (1863) p. 354.

Jonquière Tp., Que., second range, near Saguenay River, ilmenite found on, (82-84) p. 9 D.

R. III., mica reported in, garnets and emeralds, beryl crystals found, (82-84) p. 9 D.

Jordan Mt., N.B., Kingston Series, Huronian recognized at, (77-78) p. 10 D.

note on manganese deposit, (78-79) p. 24 D.

Jordan River, B.C., gold on, (76-77) p. 144.

Joseph Lake, Ont., good land in vicinity of, (76-77) p. 196.

Journal of A. R. C. Selwyn, in British Columbia, 1871, (71-72) pp. 16-49.

Rat Creek, Man., to Edmonton, (73-74) pp. 23-39.

Edmonton to Rocky Mt. House, (73-74) p. 39.

Rocky Mt. House to Edmonton, (73-74) p. 41.

Edmonton to Lake Winnipeg, (73-74) pp. 42-44.

Journal of J. Macoun, from Victoria via Fraser River, Peace River and Athabasca River to Carlton, (75-76) pp. 110-185.

Journal of Peace River expedition by A. R. C. Selwyn, (75-76) pp. 31-69.

Joys Corner, Carleton Co., N.B., fossiliferous limestone in the Silurian, (82-84) p. 9 G.

JUAN DE FUCA, note on voyage of on west coast of America, (78-79) p. 6 B.

Juan Perez Sound, Q.C.Is., general description, (78-79) pp. 21-22 B.

sailing directions for entering, (78-79) p. 23B.

older series of rocks on south-west shore, (78-79) p. 57 B.

Judique, N.S., Carboniferous limestone series near, (82-84) p. 47 H.

Carboniferous rocks of vicinity, (79-80) p. 105 F.

Judique Brook, Inverness Co., N.S., Carboniferous and igneous rocks on, (79-80) p. 103 F.

Judique Chapel Brook, N.S., note on deposit of heavy-spar, (79-80) p. 125 F.

Judique Harbour, Inverness Co., N.S., section of Carboniferous strata on shore north of, (79-80) pp. 106-108 F.

Judique Intervale Brook, Inverness Co., N.S., outcrops of Carboniferous rocks, (79-80) p. 105 F.

Judique Map-sheet, N.S., issued 1884, scale 1 m. = 1 in.

Judith River Series, relation to Belly River rocks of Alberta, (82-84) p. 119 C.

Juglans cinerea, Linn., note on range of in Canada, (79-80) p. 53 C.

Juglans nigra, Linn., note on range of in Canada, (79-80) p. 53 C.

Jugglers Mt., south of Lake Mistassini, Que., limestones with supposed coral remains, (70-71) pp. 243-244.

conglomerates of, (70-71) p. 293.

Jumping Brook, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 21 H.

Jumping Pound River, tributary of Bow River, Alta., situation of mouth, (82-84) p. 31 C.

rocks exposed on Bow River at mouth of, (82-84) p. 81 C.

coal outcrop reported, (82-84) p. 131 C.

Junction, of Cretaceous and Tertiary in Bad Lands, south of Wood Mt., N.W.T., diagrammatic section, (79-80) facing p. 32 A.

north point of Graham Island, Q.C.Is., (78-79) p. 83 B.

of Huronian and Laurentian on Mattagami River, (75-76) p. 311.

Michipicoten Harbour, (63-66) pp. 127-129.

of Silurian and trappean rocks at Morrissey tunnel, Restigouche River, N.B., (79-80) p. 21 D.

of Willow Creek and St. Mary River beds on Old Man River, Alta., (82-84) p. 67 C.

see also Contact.

Junction Cliff, Anticosti Island, Que., summit of Hudson River Formation at, (1863) p. 224.

section of rocks of Anticosti Group, with lists of fossils, (1863) pp. 298-300.

Juniperus virginiana, Linn., occurrence of in British Columbia, (79-80) p. 175 B.

note on range of in Canada, (79-80) p. 53 C.

Jupiter River, Anticosti, Que., section of rocks from Long Point, (1863) pp. 300-302.

to South-west Point, section along coast, (1863) pp. 302-303.

Jurassic fossils, from Rock Island Gates, Peace River, notes on, (75-76) p. 96.

Jurassic fossils—*Cont.*

- from British Columbia, notes by J. F. Whiteaves, (76-77) pp. 150-159.
- Jurassic fossil plants from Q.C.Is., B.C., (72-73) pp. 69-70.
- Jurassic rocks in British Columbia, fossils common to Jurassic of Dakota, (76-77) p. 158.
- Kabinakagami Lake and River, Ont., note on geology of, (80-82) pp. 4-5 C.
superficial deposits of, (80-82) pp. 8-9 C.
list of plants collected by R. Bell, (80-82) pp. 17-28 C.
- Kabitotiquia River, Lake Nipigon, Ont., ridge of sand and boulders, (66-69) E. p. 354, F. p. 391.
soil found on banks of, (66-69) E. p. 355, F. p. 393.
- Ka-gi-i-na-gami River and Lake, Albany River, part of, surveyed by R. Bell, (71-72) pp. 107-109.
- Kah-sey-bah-gah-mog Lake, Ont., position of, (66-69) E. p. 147, F. p. 163.
- Kai-ga-ni Indians in Alaska, estimate of number, (78-79) p. 173-174 B.
- Kai-shun, village near Gold Harbour, Q.C.Is., B.C., abandoned, (78-79) p. 168 B.
- Kakabeka Falls, Ont., note on Upper Copper-bearing rocks exposed on Kaministiquia River, shales and limestones, concretions, (1863) pp. 68-69.
height of, (1863) p. 69.
anticline in cherty slate, (72-73) p. 91.
- Ka-ka-bish-i Rapid, Mattagami River, Ont., Huronian schists, (75-76) p. 312.
- Ka-ko-zhisk River, branch of Mattagami River, Ont., general description of, (75-76) p. 310.
- Kaladar Tp., Ont., map, scale 4 m. = 1 in., (66-69) E. p. 143, F. p. 159.
distribution of division B, Hastings Series, (66-69) E. p. 152, F. p. 169.
dioritic schists in, (70-71) p. 311.
diorites of, (76-77) p. 255.
granites of, (72-73) p. 141.
white granites and gneisses, (72-73) p. 148.
green schists on Addington road, (72-73) p. 151.
green slates, conglomerates, (72-73) p. 151.
green slates in, (76-77) p. 255.
representative of slate group in Renfrew Co., (74-75) p. 135.
- Kalk-dabase, fine grained diabase of Lake Superior, (63-66) p. 123.
- Kamas Bluff, Denman Island, B.C., escarpment of Lower Conglomerates, (72-73) p. 46.
- Kame or horseback, definition of term, (82-84) p. 7 GG.
- Kames, of Western New Brunswick, river-valley kames, highland kames, material of, description of examples, (82-84) pp. 20-27 GG.
and terraces in New Brunswick, working theory of origin of, foot note by R. Chalmers, (82-84) pp. 41-42 GG.

Kames—*Cont.*

- of the water-sheds in New Brunswick, description of examples, (82-84) pp. 25-27 GG.
- crossing valley at Heron Lake, near Fredericton, N.B., (82-84) p. 19 GG.
- on Keswick River, N.B., (82-84) p. 23 GG.
- on Nashwaak River, N.B., description of, (82-84) p. 24 GG.
- in valley of St. John River, N.B., description of, (82-84) pp. 21-23 GG.
- and gravel ridges in Southern New Brunswick, table of, (77-78) pp. 13-15 EE.
- Kamino River, B.C., rocks of, (74-75) p. 79.
- Kaministiquia River, Ont., area occupied by gneiss on, (1863) p. 48.
note on Huronian rocks of, distribution, description of valley and Dog Lake, (1863) pp. 63-65.
description of Upper Copper-bearing rocks on, (1863) pp. 68-69.
note on mineral veins of, (1863) p. 708.
surface deposits, (1863) p. 905.
Algoma sand on, (1863) p. 907.
dark shales of, (66-69) E. p. 322, F. p. 355.
alluvial deposits in valley, (66-69) E. p. 323, F. p. 356.
Laurentian rocks on, (66-69) E. p. 329, F. p. 363.
Huronian rocks on, (66-69) E. p. 329, F. p. 364.
terminal moraines on Strawberry Creek, (66-69) E. p. 352, F. p. 389.
terrace north side of, (66-69) E. p. 353, F. p. 391.
soil in valley of, (66-69) E. p. 354, F. p. 392.
lead ore and zinc-blende at rapids, (66-69) E. p. 358, F. p. 397.
clay for brick making, (66-69) E. p. 362, F. p. 401.
rocks suitable for roofing tiles, (66-69) E. p. 363, F. p. 402.
- Kakabeka Falls to Mattawa River, (72-73) p. 91.
- Kamloops, B.C., position of, means of transport east of, (71-72) p. 24.
vegetation of vicinity, berries, wild flax and hemp, (71-72) p. 69.
situation of, (77-78) p. 18 B.
illustration showing Mt. St. Paul, (77-78) facing p. 18 B.
trails running to the southward, description of, (77-78) p. 27 B.
- Palaeozoic rocks of district, (77-78) pp. 79-80 B.
agglomerate with volcanic bombs, near, (77-78) p. 119 B.
character of boulder-clay, (77-78) p. 140 B.
white silts resting on boulder-clay, summit of white silts, (77-78) pp. 142-143 B.
elevation of terrace near, (77-78) p. 148 B.
limestone of vicinity, (77-78) p. 163 B.
unconformity between Nicola Series and Carboniferous on South Thompson River, (77-78) p. 171 B.
microscopic description of olivine from Tertiary volcanic rocks, (77-78) p. 41 G.

- Kamloops Lake, B.C., rocks of, fossils in, (71-72) p. 58.
 iron-ore from, (76-77) p. 146.
 copper from, (76-77) p. 148.
 the shores, tributary streams, geological features, depth of lake, (77-78) pp. 17-18 B.
 valley of, general description, (77-78) p. 19 B.
 description of country south of, to Nicola River, (77-78) p. 27 B.
 rocks of west end, and on Thompson River, (77-78) p. 83 B.
 description of section along north shore, (77-78) pp. 114-117 B.
 rocks of the south shore, (77-78) pp. 117-120 B.
 two miles east of Three Mile Creek, fragment of limestone in volcanic rock, wood-cut showing, (77-78) p. 118 B.
 glaciation of rocks of, (77-78) p. 133 B.
 the white silt deposits of, (77-78) pp. 142-143 B.
 note on building stone of, (77-78) p. 165 B.
 diagrammatic section along north shore, (77-78) facing p. 174 B.
 analysis of magnetite from Cherry Bluff, (77-78) p. 46 G.
- Kammererite found in serpentine in Melbourne and Bolton Tps., Que., (1863) p. 489.
- Kamouraska, Que., note on quartzites of vicinity of, (1863) p. 259.
 Lower Potsdam Formation, (66-69) E. p. 125, F. p. 140.
- Kamouraska Co., Que., localities for bog iron-ore, (66-69) E. p. 140, F. p. 156.
 geological map on scale of 8 m. = 1 in., (66-69) E. p. 119, F. p. 133.
for general geology see Part I, p. 9.
- Kananaskis Pass, Rocky Mountains, high terraces at mouth of, (82-84) p. 146 C.
- Kananaskis River, Alta., Pierre shales near mouth, (82-84) p. 107 C.
 analysis of clay-ironstone referred to, (82-84) p. 168 C.
 analysis of clay-ironstone from, (80-82) p. 10 H.
- Kangaroo Creek, B.C., gold workings of, (76-77) p. 137.
- Kaolin, in beds at foot of section near Boies-town, N.B., (70-71) p. 242.
 from Grand Frenier, Que., mode of occurrence and analysis of, (78-79) p. 7 H.
 in Laurentian rocks of Grenville, Que., note on, (1863) p. 41.
 in small veins on Rocky Brook, York Co., N.B., (66-69) E. p. 191, F. p. 211.
 of Vermont, referred to, used in manufacture of pottery, (1863) p. 801.
 in Miocene Tertiary deposits, (1863) p. 930.
- Kaolinite from Acton Tp., Que., analysis of, (74-75) pp. 314-315.
- Kapikotongua River, branch of Albany River, Ont., survey of part of, (71-72) p. 107.
 green mica schists on, (71-72) p. 108.
 exposures of gneiss and granite on, (71-72) p. 108.
- Kars, Queens Co., N.B., exposures on road from London Settlement to Tenants Cove, (70-71) p. 74.
 section between Tenants Cove and Jones Cove, (70-71) p. 70.
 Huronian rocks, various exposures of, (70-71) pp. 75-76.
- Kars and Springfield parishes, N.B., Huronian rocks of, (70-71) p. 54.
- Kashabowie Lake, Ont., rocks of shores, banded gneiss, (72-73) p. 95.
- Kashabowie Portage, Shebandowan Lake, Ont., dioritic schists, (72-73) p. 95.
- Katigamaigouska Lake, north of Lake Huron, Huronian limestone and slate boulders, slate conglomerate and jasper conglomerate exposed, (1863) p. 842.
- Ka-toot Lake, near Smoky River, N.W.T., size of, (79-80) p. 53 B.
- Kawakashkagama River, branch of Albany River, Ont., description, (70-71) p. 342.
- Ka-wa-shaig-amog Lake, Wilson Tp., Ont., limestone band on, (76-77) p. 203.
- Kaw-che-wah-nook Lake, Ont., Ottonabee River, the Trenton Group exposed, (1863) p. 189.
- Ka-yung Indian village, Masset Inlet, Q.C.I.s., B.C., description of, (78-79) p. 164 B.
- Ka-zu-zee-kitchie-wag-amog Lake, Thunder Bay district, Ont., (66-69) E. p. 322, F. p. 355.
- Kean ore bed, Marmora Tp., Ont., note on, (63-66) p. 100.
 on ore bed of Div. B., (66-69) E. p. 151, F. p. 168.
- KEATING, PROF., extract from report on Winnipeg River, (72-73) p. 15.
- Keating location, Wellington and Bruce mines, Ont., note on copper lodes at, (1863) p. 60.
- Keaton Point, Guysborough Harbour, N.S., limestone exposures at, (79-80) p. 60 F.
- Kedgewick River, N.B., terraces at forks of, (79-80) p. 43 D.
- Kedron Lake, N.B., old channel connecting it with Oromocto Lake, drift filled, height of lake, (82-84) p. 18 G.G.
- Lower Carboniferous concealed, (72-73) p. 186.
- Keepawa Lake, Que., estimated height and area, (1863) p. 6.
- Keesville, Que., Chazy Formation near, (1863) p. 131.
- Keewatin, summary of explorations in during 1882, (80-82) pp. 15-16.
 summary of explorations east of Lake Winnipeg for 1883, (82-84) pp. 5-8.
- Keewatin Mills, Ont., boundary of Huronian rocks near, (80-82) p. 13 C.
- Keewatin mine, Hay Island, Lake of the Woods, Ont., description of veins and work done on, (82-84) pp. 10-11 K.
 assays of ore from, (82-84) p. 13 MM.

- Keeswick Bluff, near Kings Clear, York Co., N.B., exposure of slate, (66-69) E. p. 189, F. p. 219.
- Keg Brook, Gaspé, exposures of Gaspé Series on, (1863) p. 883.
- Kellers Bridge, Moira River, Ont., Hastings road, quartzites and slates, (66-69) E. p. 156, F. p. 173.
- Kelly Cove, Great Bras D'Or, N.S., work by J. Robb on structure of west end of coal formation, (73-74) p. 174.
probable thickness of Millstone Grit at, (74-75) p. 184.
section of rocks from wharf to St. Annes Mountain, (74-75) pp. 252-253.
- Kelly Creek, N.B., thickness of red rocks of Carboniferous age, (66-69) E. p. 181, F. p. 200.
- Kelly Point, N.S., Carboniferous fossils of, (76-77) p. 440.
- Kellys Lake, south-west of Clinton, B.C., formation of, (77-78) p. 12 B.
rocks exposed on road, limestone range, (77-78) pp. 94-95 B.
quartz vein with gold and silver, (77-78) p. 160 B.
- Kellys Lake Creek, B.C., gold on, (76-77) p. 143.
- Kellys Stream, N.B., outcrop of Lower Carboniferous limestone near, (72-73) p. 228.
- Kelvin Brook, Cape Breton Co., N.S., contact of felsite with Silurian strata on, (77-78) p. 4 F.
Lower Silurian rocks of, (77-78) p. 15 F.
- Kemp Brook, Richmond Co., N.S., sandstone and shale in, (79-80) p. 71 F.
- Kemp Head, N.S., rocks of, (76-77) pp. 445, 448.
- Kemptville, Ont., exposures of Calciferous near, (1863) p. 118.
- Kendall's mine, Buckingham, Que., note on apatite deposit, (82-84) pp. 19-20 J.
- Kennebec Tp., Frontenac, Ont., whetstones referred to in previous reports, manufacture of since stopped, (70-71) p. 315.
reddish gneisses of barren region, (72-73) p. 148.
- Kennebecasis Bay, N.B., Laurentian rocks of, (70-71) p. 39.
Lower Carboniferous showing faults, (70-71) p. 180.
south shore of, conglomerates of Lower Carboniferous, (70-71) p. 207.
- Kennebecasis conglomerates, fragments of granite, mica-schists, etc., (70-71) p. 207.
- Kennebecasis Island, N.B., Primordial rocks overlying gneiss, (70-71) p. 40.
St. John Group on, (70-71) p. 140.
section of Lower Carboniferous and Laurentian rocks on, (70-71) p. 207.
- Kennebecasis River, N.B., peat deposits in submerged flats on, (77-78) p. 33 EE.
bituminous shales of Lower Carboniferous on south branch of, (78-79) p. 16 D.
- Kennebecasis Valley, N.B., topography of, (70-71) p. 17.
details of St. John Group in, (70-71) pp. 140-141.
- Kennedy Flat, Leech River, B.C., site of Leech Town, description of, (76-77) pp. 97-99.
- Kennington Cove, N.S., felsites, (77-78) p. 8 F.
- Kenogami River, Ont., general course, tributaries, (70-71) p. 338.
level country, terraces on sides of river, forest trees, (70-71) p. 340.
gneiss and syenite of, (70-71) p. 340.
general description of, (70-71) pp. 338-341.
Silurian outlier of sandstone and limestone, (70-71) pp. 339-340.
rocks of Pembina Island, (70-71) p. 339.
list of portages on, (70-71) p. 341.
the junction with Albany River, (71-72) p. 111.
description of, from Forks to Pembina Island, (71-72) pp. 112-114.
limestones and marls of, (71-72) p. 113.
- Kenogami or Long Lake, *see* Long Lake, Algoma, Ont., (70-71) p. 335.
- Kenogami Lake, Que., thickness of marine clays near, (1863) p. 923.
- Kenogamissee Lake, Ont., Laurentian and Huronian rocks of, (75-76) p. 308.
- Kent Co., N.B., note on borings made for oil, (80-82) p. 5 D.
note on soil of, (80-82) p. 20 D.
reference to coal seams in, (80-82) p. 21 D.
map of part of, Richibucto sheet No. 2, S.E., scale 4 m. = 1 in., (80-82) D.
map of part of, on Buctouche Map-sheet, issued in 1884.
for general geology see Part I, p. 6.
- Kent Co., Ont.:—
superficial geology and soils see Part I, p. 13.
- Kents Island, off Grand Manan, rocks of, limestones, felsites, (70-71) p. 111.
- Kent's shaft, Harvey Hill mine, Que., description of workings, (1863) p. 728.
- Kentucky, source of oil in Cumberland Co., (63-66) p. 253.
flowing oil wells of Estell Co., (63-66) p. 241.
oil wells in Carboniferous and Lower Carboniferous, (63-66) p. 240.
- Kentucky coffee tree, said to occur in Ontario, (79-80) p. 54 C.
- Kenyon Tp., Glengarry, Ont., ridge of Calciferous on anticline in, (1863) p. 116.
the Trenton exposed in, note on, (1863) p. 172.
- Keppel Cape, Admiral Is., B.C., crystalline rocks of, (71-72) p. 90.
- Keppel Tp., Ont., Medina and Clinton formations, outcrop, along lake front of, (1863) p. 318.
- Keremeos or Kerameos Brook, Similkameen River, B.C., arable flat, flour mill, crops and grazing land, (77-78) p. 51 B.

- Keremeos, B.C.—*Cont.*
cherty quartzites and schistose hematite,
near mouth on Similkameen River, B.C.,
(77-78) p. 86 B.
- Keremeos, B.C., elevation of terrace behind,
(77-78) p. 147 B.
- Kerrys Lake, N.W.T., latitude determined by
A. Webster, 1875, (79-80) p. 165 B.
- Kes-la-chick cañon, B.C., general description of,
(76-77) p. 40.
- Kes-la-chick River, B.C., general description,
(76-77) p. 40.
rocks on, (76-77) pp. 69-70.
illustration showing rocks at cañon of,
(76-77) facing p. 70.
- Keswick River, York Co., N.B., relation of
Cambro-Silurian beds and granite area,
(82-84) p. 22 G.
kames and ridges on, (82-84) p. 23 GG.
height of terraces in valley of, (82-84)
p. 37 GG.
- Keswick, N.B., section of terrace at, with
diagram of, (82-84) pp. 39-40 GG.
- Kettle Falls, Churchill River, length of portage
and fall at, (79-80) p. 13 C.
- Kettle Falls, Columbia River, B.C., contorted
rocks at, (82-84) p. 22 B.
- Kettle Falls, Rainy Lake, Ont., rocks on river
at, (73-74) p. 88.
- Kettle-holes, at base of Thunder Hill, Man.,
(74-75) p. 59.
on plain south of Chilacco River bridge,
B.C., (75-76) p. 34.
- Kettle Point, Lake Huron, Ont., exposures of
bituminous slates probably of base of
Portage Group, (1863) pp. 387-388.
oxalate of iron found at, (1863) p. 513.
petroleum obtained from schists of, (1863)
p. 528.
- Kettle River, B.C., gold on, (76-77) p. 143.
general description, (82-84) p. 6 B.
gneissic veins of eruptive granite in slates,
(82-84) p. 21 B.
equivalence of beds of, (82-84) p. 30 B.
- Kettle River valley, B.C., description of rocks
of lower part of, (82-84) p. 22 B.
near boundary, Tertiary rocks of, (82-84)
pp. 32-33 B.
- Kettles, superceded by pans in salt manufacture,
(74-75) p. 270.
- Keweenaw Point, Michigan, note on copper
ores of, (1863) p. 698.
situation of mines at, (63-66) p. 149.
- Keweenaw Peninsula, rocks of, note on, (66-69)
E. p. 475, F. p. 529.
- Keweenaw Formation, upper part of Upper
Copper-bearing rocks, description and
distribution, (1863) pp. 70-86.
- Kewstoke, Inverness Co., N.S., felsites and
argillites of, referred to, (79-80) p. 32 F.
- Kewstoke Brook, Inverness Co., N.S., George
River limestone of, (82-84) p. 33 H.
- Kiamika Lake, Que., trees, etc., on agricultural
land, (69-70) p. 8 Summ.
graphite and magnetic iron sand, (69-70)
p. 9 Summ.
- Kiamika Tp., Que., summary of report by
W. McQuat on survey line from St. Maur-
ice River, (69-70) pp. 8-9 Summ.
- Kidd Creek, Little Bras d'Or Lake, N.S., coal
seam at mouth of, (74-75) p. 238.
- Kierstead Mountain, Kings Co., N.B., diorite
with magnetite, (70-71) p. 78.
- Kiethly Creek, B.C., gold workings on, (76-77)
p. 137.
- Kikendatch, *see* Kirkendatch, Que.
- Kildala Arm, Kitimat Inlet, B.C., rocks of, (74-
75) p. 79.
- Kildare Tp., Que., note on bog ore deposit,
(1863) p. 685.
- Killbear Point, Georgian Bay, Ont., gray gneiss
of, (76-77) p. 200.
- Killingworth, Conn., probable first smelting of
iron sand at, (66-69) E. p. 263, F. p. 291.
- Kilmarnock, Ont., exposure of Calciferous rocks
noted, (1863) p. 118.
- Kimniruk or Kimnirook, Hudson Strait, report
of graphite, mica, hematite and soapstone
at, (82-84) pp. 24-25 DD.
- Kincardine, Ont., exposures of Corniferous
Formation in Baker's quarry, (1863)
p. 374.
record of well to salt bearing stratum,
(66-69) E. p. 212, F. p. 234.
rainfall for 1871, (74-75) p. 274.
record of new well for salt, 60 ft. rock salt,
(74-75) p. 286.
rock salt discovered at, (76-77) p. 221.
analysis of brine from well at, (66-69)
E. p. 222, F. p. 245.
- Kincardine Tp., Ont., note on asphaltum in
rocks, (1863) p. 522.
- King Georges Sound, Hudson Strait, view show-
ing outline of hills, (79-80) facing p. 24 C.
- King Tp., Ont., note on boulders in, (1863)
p. 895.
- Kings Clear, St. John River, N.B., basal beds of
Carboniferous, (66-69) E. p. 182, F. p. 201.
- Kings Co., N.B., Huronian Series in northern
part of, (70-71) pp. 112-118.
details of St. John Group in northern part,
(70-71) pp. 141-142.
Upper Silurian Series in, (70-71) pp. 164-169.
localities for copper ores, (70-71) p. 227.
discovery of Upper Carboniferous and
granites in, (71-72) p. 144.
pre-Silurian rocks of eastern part of, (77-78)
pp. 1-13 D.
the Huronian and Cambrian of part of,
(77-78) pp. 1-34 DD.
table of division of formations in, (77-78)
p. 2 DD.
report on Upper Silurian and Kingston
(Huronian) of, (77-78) pp. 1-6 E.

- Kings Co., N.B.—*Cont.*
 comparative section of Kingston Series, with that of Charlotte and St. John Cos., (77-78) p. 6 E.
 list of glacial striae in, (77-78) pp. 7-9 EE.
 geological report and résumé of former reports by Bailey, Matthew and Ells, with map, (78-79) pp. 1-26 D.
 bituminous shales similar to Albert shales found in, (78-79) p. 16 D.
 and Queens Co., N.B., Coldbrook Group of Huronian rocks in, (70-71) pp. 65-82.
for general geology see also Part I, p. 6.
- King's mine, Thetford, Que., notes on workings, (80-82) p. 7 GG.
- King's vein, Cowgitz, Q.C.Is., anthracite coal mined at, position of seam, (78-79) p. 73 B.
- Kingsley Tp., Que., lower dark shales of Quebec Group in, (1863) p. 239.
 locality in for whetstones, (1863) p. 809.
 note on slate found in, (1863) p. 831.
 copper localities in, (63-66) p. 312.
- Kingston, Ont., celestine and blende in basal beds of Trenton Group, (1863) pp. 183, 459.
 analyses of water from well at Morton's distillery, (1863) p. 539.
 note on columnar markings in limestones with wood-cut of, reference to Bonny-castle's paper on, (1863) p. 632.
 bed of cement-stone found at, (1863) p. 806.
 building stone of, the Trenton limestone, (1863) p. 816.
 clays of, fossils in, (1863) p. 904.
 longitude determined by E. D. Ashe, (1863) p. 9 Atlas.
 and Kingston Mills, basal beds of Trenton Group resting on gneiss, (1863) pp. 178, 295.
- Kingston, Kings Co., N.B., rocks of Kingston Group, (70-71) p. 123.
- Kingston Creek, Kings Co., N.B., division between slates and gneissic rocks, (70-71) p. 123.
 folds in Silurian rocks, (77-78) p. 2 E.
 exposures of Huronian on sides of valley to Clifton, (77-78) pp. 4-5 E.
- Kingstone's mills, Warwick Tp., Ont., exposure of bituminous shale on Bear Creek, (1863) p. 388.
 total thickness of Hamilton Formation at, (63-66) p. 247.
 salt discovered at, (76-77) p. 222.
- Kingston Parish, Kings Co., N.B., general course of beds, topography, (70-71) p. 122.
 gravel ridges in, (77-78) p. 14 EE.
- Kingston Peninsula, N.B., topography of, (70-71) p. 17.
 extension of rocks eastward, Jordan and Whites Mts., (77-78) p. 10 D.
- Kingston and Pembroke Ry., Ont., iron-ore deposits along, (74-75) pp. 112-122.
- Kingston Group, as constituted by L. W. Bailey, 1865, (70-71) p. 26.
 history of, limits in New Brunswick, (70-71) p. 119.
- Kingston Group—*Cont.*
 synopsis of divisions, structure, thickness, (70-71) p. 120.
 contact with Coastal Series, near Belyea's Inn, (70-71) p. 123.
 details of exposures in New Brunswick, (70-71) p. 121.
 synclinal fold of, on Mascarene Peninsula, (70-71) p. 126.
 relation to the Upper Silurian in Charlotte Co., N.B., (76-77) p. 336.
 metalliferous zones in Charlotte Co., N.B., (76-77) p. 343.
 of Southern New Brunswick, by G. F. Matthew, (77-78) pp. 3-6 E.
 note on age of, (77-78) p. 5 E.
 table of comparative sections, Charlotte, Kings and St. John Cos., N.B., (77-78) p. 6 E.
 of north side Belleisle Bay, N.B., overlaid by slates, (77-78) p. 11 D.
 general characters, age of, probably Huronian, (78-79) pp. 4-5 D.
 west of St. John River, N.B., description of outcrop of, (78-79) p. 5 D.
 extension eastwards in Kings Co., N.B., (78-79) p. 5 D.
 in Charlotte Co., N.B., portion of, formerly assigned to Silurian, referred back to Huronian, (78-79) p. 10 D.
 and Mascarene Series, correlated as Upper Silurian, (74-75) p. 85.
- Kin-gui Island, Cumshewa Inlet, Q.C.Is., B.C., position and description of, (78-79) p. 28 B.
- Kinnikinnick used by Haida Indians, (78-79) p. 115 B.
- Kinonge River, Que., Grenville limestone band on, (1863) p. 837.
- Kinouchewan Rapids, head of Gods Lake, Keewatin, portages past, (78-79) p. 31 C.
- Kinouchewanoose Rapids, Island Lake River, Keewatin, portages past, (78-79) p. 31 C.
- Kipp's Coulée, north of Milk River, Alta., rocks exposed south of, (82-84) p. 52 C.
- KIRKBY, Ven. ARCHDEACON, list of lepidoptera collected by, from Nelson and Churchill rivers, (78-79) pp. 63-64 C.
- Kirkendatch, St. Maurice River, Que., canoe-route to Gatineau River, (70-71) p. 286.
 Laurentian rocks of, (70-71) p. 290.
 brown sands, topography, timber, elevation, (70-71) p. 300.
- Kirkland, N.B., amygdaloidal diorites and agglomerates of, (82-84) p. 17 G.
- Kitchen middens, Charlotte Co., N.B., character of shore at, (76-77) p. 323.
 Simpson's Beach, N.B., lilac sandstones at waters edge, (76-77) p. 326.
- Kitimat Arm, B.C., superficial geology, timber, (74-75) p. 75.
 rocks of east side of, (74-75) p. 79.
 copper from, (76-77) p. 148.
 good harbour reported, (79-80) p. 11 B.
- Kitimat River, B.C., hay land at mouth, (74-75) p. 75.

- Kitimat summer village, B.C., terrace of sand, (74-75) p. 75.
 Photograph Mt., rocks of, (74-75) p. 80.
- Kit-kia-tab Bay, Douglas Channel, B.C., hornblende-schists, (74-75) p. 78.
- Kitley Corners, Ont., exposure of Calciferous at, (1863) p. 118.
- Kitley Tp., Ont., exposures of Calciferous in, (1863) p. 118.
- Kitsalas Indian village, Skeena River, B.C., description of, (79-80) p. 13 B.
- Kitsalas Cañon, Skeena River, B.C., description of portage at, (79-80) p. 13 B.
 porphyritic rocks of, (79-80) p. 102 B.
- Kitseguella River, Skeena River, B.C., situation of mouth of, description of valley, (79-80) p. 15 B.
 note on coal from, (79-80) p. 105 B.
 soft sandstones and impure coal, anticline in beds, (79-80) p. 103 B.
- Kitsumgalum River, branch of Skeena River, B.C., description of, (79-80) p. 11 B.
 porphyritic rocks near, (79-80) p. 101 B.
- Kitumax River, B.C., *see* Kitsumgalum River.
- Kit-wan-ga Indian village, Skeena River, situation of, size of, (79-80) p. 15 B.
 terraces in valley at, (79-80) pp. 15, 137 B.
- Klas-kwun Point, Graham Island, Q.C.Is., B.C., character of country, (78-79) p. 39 B.
- Klootch-oota Lake, B.C., size of, (76-77) p. 25.
- Klue Indian village, Q.C.Is., situation of, (78-79) p. 26 B.
 description of, (78-79) p. 169 B.
- Klunchatistli Lake, B.C., position and elevation of, (76-77) p. 21.
- Klunkwoi Bay, Darwin Sound, Q.C.Is., description of mountains surrounding, (78-79) p. 24 B.
 rocks of, fossils, (78-79) p. 58 B.
- Knapp's Point, Loughborough Lakes, Ont., Potsdam sandstone of, (1863) p. 99.
 basal beds of Trenton at, (1863) p. 179.
- Knee Lake, Keewatin, general description of, (77-78) p. 6 CC.
 Huronian rocks of, magnetic iron-ore, (77-78) pp. 21-22 CC.
 analysis of magnetite from, (78-79) p. 15 H.
 sandy tract about, (78-79) p. 32 C.
 reference to magnetic iron-ore near mouth of Trout River, (78-79) p. 36 C.
 to Oxford House, lists of plants from, collected in 1880, (79-80) pp. 59-69 C.
- Knife Lake, International Boundary, Ont., rocks of, (72-73) p. 94.
- Knife Portage, Kaministiquia River, Ont., quartzite at, (72-73) p. 91.
- Knife River, Gods Lake, Keewatin, position of, (78-79) p. 30 C.
- Knives used by Haida Indians, (78-79) p. 142 B.
- Knight Inlet, B.C., iron-ore reported at head of, (73-74) p. 100.
- Knight Inlet, B.C.—*Cont.*
 reference to specimen of magnetite from, (73-74) p. 206.
 specimens of copper-ore from, (76-77) pp. 132, 147.
 iron-ore at, (76-77) p. 146.
- Knight's mills, Musquash River, N.B., rocks of the Kingston Group, (70-71) p. 124.
- Knockan Hill, near Victoria, B.C., crystalline limestone of, (71-72) p. 92.
- Knowlton Lake, Frontenac Co., Ont., the Potsdam Formation exposed on, (1863) pp. 99-100.
 escarpment of base of Trenton Group, (1863) p. 179.
 crystalline limestone at, (73-74) p. 109.
- Knowlton, Que., deposit of impure soapstone noted, (1863) p. 797.
- Ko-has-gan-ko River, B.C., description of, discovery of lignite on, (76-77) p. 32.
 exposures of Tertiary on, lignite of, (76-77) p. 76.
 analysis of lignite from, (77-78) p. 48 G.
- Kootenay Brook, south fork Old Man River, Alta., coal seams, (82-84) p. 99 C.
- Kootenay District, B.C., yield of gold in, (76-77) p. 116.
 gold localities of, with note on workings of, (76-77) p. 140.
- Kootenay Lake, B.C., result of assay of galena from, obtained in 1861, (82-84) p. 38 B.
- Kootenay River, B.C., general description, (82-84) p. 6 B.
 width of disturbed belt on, (80-82) p. 3 B.
- Kootenay Valley, B.C., description of near International Boundary, (82-84) pp. 25-26 B.
 Carboniferous beds north of Tobacco Plains, (82-84) p. 27 B.
 slaty rocks of, mode of deposition, (82-84) p. 30 B.
- Koskeemo coal-field, Vancouver Island, B.C., opinion of R. Brown of, (72-73) p. 80.
- Kouchibouguacis River, Kent Co., N.B., good soil of, note on, (80-82) p. 4 D.
- Kultus Coolie or Tsil-be-kuz Lake B.C., description of, (76-77) p. 26.
- Kung Indian village, Virago Sound, Q.C.Is., B.C., situation of, (78-79) p. 39 B.
 description of, (78-79) p. 163 B.
- Kun-ga Island, Laskeek Bay, Q.C.Is., B.C., appearance of, (78-79) p. 25 B.
 volcanic rocks and fossiliferous limestone, (78-79) p. 61 B.
- Kuper Island, Stuart Channel, B.C., undulations in beds, (71-72) p. 87.
- Kuper Island, west coast of Q.C.Is., B.C., description of, (78-79) p. 41 B.
- Kuy-a-kuz Lake, B.C., description of, (76-77) pp. 23-24.
- Kuy-a-kuz Range, B.C., average altitude, (76-77) p. 24.
 rocks of, (76-77) p. 68.

- Kwa or Whool-tan Lake, B.C., position of, (76-77) p. 51.
- Kwatsalix Cañon, Skeena River, B.C., note on, (79-80) p. 15 B.
- sandstones and argillites of Nechacco Group, (79-80) p. 102 B.
- Kyanite found in Vermont and southwards, not in Canada as far as known, (1863) p. 473.
- Kyanite-rock, general characters of, (1863) p. 652.
- Laboratory of Survey, work of chemical branch for 1873-4, (73-74) pp. 6-8.
- summary of investigations for 1874-5, (74-75) p. 13.
- summary of investigations for 1876-7, (76-77) p. 6.
- summary of investigations for 1881, (80-82) p. 10.
- summary of work carried out during 1883, (82-84) pp. 21-22.
- Labouglic's openings for graphite in Buckingham, Que., (73-74) p. 140.
- Labour, cost of in Cariboo District, B.C., in 1875, (76-77) p. 113.
- comparison in cost of, in Nova Scotia and Australia, (70-71) p. 281.
- cost of at various iron mines, (73-74) pp. 242-243.
- statistics of, in salt industry of Ontario, (74-75) p. 296.
- statistics of, for coal mines of Cape Breton, N.S., (72-73) p. 290.
- Labrador coast, note on marine clays of, (1863) p. 924.
- general description, Belle Isle to Cape Chudleigh, (82-84) pp. 9-17 DD.
- notes on geology of by R. Bell, (82-84) pp. 10-16 DD.
- list of plants collected on, (82-84) pp. 38-47 DD.
- list and notes on birds of, by R. Bell, (82-84) pp. 54-56 DD.
- notes on mammals of, with list, (82-84) pp. 4-53 DD.
- and Hudson Strait and Bay, geology, mineralogy, zoology and botany of, by R. Bell, (82-84) pp. 1-62 DD.
- Labradorite, analyses of specimens from Quebec and Ontario, (1863) p. 478.
- crystals of from vicinity of Partridge Bay, Ont., (76-77) p. 197.
- peculiar surface decomposition in Saguenay region, Que., (82-84) pp. 7-8 D.
- at Dolins Lake, St. John Co., N.B., (70-71) p. 238.
- in Hastings Series, (76-77) p. 256.
- with limestones at Hopetown, Ont., (76-77) p. 262.
- in Horton Tp., Ont., (76-77) p. 260.
- of Lanark and Ramsay Tps., Ont., (76-77) p. 261.
- note on specimens seen by R. Bell on coast of Labrador, (82-84) p. 12 DD.
- general distribution of in Laurentian of Canada, (1863) p. 46.
- Labradorite—*Cont.*
- from North Sherbrooke Tp., Ont., analysis of, (74-75) p. 316.
- in granite of Savache Brook, Middle River, N.S., (82-84) p. 35 H.
- examples of, as an ornamental stone, (1863) p. 833.
- see also* Anorthosite.
- Labradorite rocks, position of in Argenteuil Co., Que., (76-77) p. 301.
- of Argenteuil, Terrebonne, Montcalm and Joliette Cos., Que., note on area of, by H. G. Vennor, (79-80) p. 3.
- of north shore St. Lawrence, Saguenay Co., Que., (66-69) E. pp. 306-307, F. pp. 338-339.
- of Saguenay region, Que., (82-84) pp. 7-10 D.
- position of, relative to Lower Laurentian, (76-77) p. 268.
- Labret used by Haida Indians, note on, (78-79) p. 108 B.
- Lac a la Croix, south of Lake St. John, Que., Trenton limestone outlier, (82-84) p. 15 D.
- Lac au Crapaud, Rolette Tp., Que., microscopic structure of highly felspathic graywacké, (80-82) p. 22 A.
- Lac de l'Est road, Kamouraska, Que., rocks exposed on, (66-69) E. p. 138, F. p. 154.
- Lac des Chats, Ottawa River, iron-ore in vein at Hudson's wharf, (1863) p. 37.
- boundary of Laurentian in vicinity of, (1863) p. 47.
- Calcareous Formation on, (1863) p. 116.
- distribution of Calcareous Formation on, (1863) p. 118.
- outliers of Chazy Formation, (1863) p. 128.
- reference to hematite at Hudson's wharf, (1863) p. 510.
- disturbance in Palæozoic strata at, (1863) p. 655.
- Lac des Isles, north of Dunvegan, Peace River, description of, (79-80) p. 58 B.
- Lac des Mille Lacs, Ont., routes followed through, to Lonely Lake, (72-73) pp. 9, 16.
- diorites and gneiss, (72-73) p. 96.
- route *via* Lonely Lake to Lake of the Woods, (72-73) pp. 98-105.
- Lac des Quinze, Ottawa River, distance from Temiscaming, rapids, character of rocks, (72-73) pp. 115-120.
- gneiss at outlet, (72-73) p. 119.
- dimensions of lake, gneiss and diorite dykes, (72-73) p. 120.
- Laurentian rocks of eastern part, (72-73) p. 131.
- roofing slates and steatite, (72-73) p. 132.
- Lac la Biche, Alta., description of, agriculture and soil near, (79-80) p. 97 B.
- road to, from Victoria, N.W.T., (79-80) p. 97 B.
- height of above Athabasca River, (82-84) p. 7 CC.
- basin of, character of soil, surface deposits of, composition of shingle on beach, (82-84) pp. 29-30 CC.

- Lac la Biche, Alta.—*Cont.*
whiteshell-marl reported in, (82-84) p. 31 CC.
- Lac Noir, Coleraine Tp., Que., microscopic structure of gneiss from, (80-82) p. 19 A.
- Lac Sec, Madame Island, N.S., conglomerates and sandstones, (79-80) p. 36 F.
- Lac Seul, Ont., islands of, length of lake, (72-73) p. 10.
height above sea, barometric, (72-73) p. 13.
stratified deposits on shore of, (72-73) p. 16.
glacial striae at Stormy Point, Shanty Narrows and outlet of, (74-75) p. 44.
see also Lonely Lake.
- Lachapelle's bridge, Montreal Island, Que., Chazy Formation crossing river at, (1863) p. 131.
- Lachine, Que., calcite in veins in Trenton limestone, (1863) p. 455.
arragonite found in limestone of, (1863) p. 456.
orthoclase in phonolite from, analysis of, (1863) p. 476.
analyses and descriptions of trachyte and phonolite from, (1863) pp. 659-662.
- Lachnus petrorum*, Scudder, description of from Tertiary of Quesnel, B.C., (75-76) p. 279.
referred to, (76-77) p. 461.
- Lachnus Quesneli*, Scudder, description of, from Tertiary of Quesnel, B.C., (76-77) p. 461.
- Lachute, Que., the Potsdam sandstone at, thickness of, (1863) pp. 94-95.
height of Potsdam track-beds above Lake St. Peter, (1863) p. 109.
aventurine felspar with brown tourmaline at, (1863) p. 475.
analysis of andesine from, (1863) p. 478.
locality for crystals of sphene, (1863) p. 503.
sandstone suitable for glass-making, (1863) p. 800.
- Lacloche, Spanish River, Ont., breadth of Huronian north of, (1863) p. 61.
- Lacloche Island, St. Mary River, L. Huron, description of sandstone of, (1863) p. 84.
the Trenton Group, exposed on, Birdseye and Black River fossils found at, (1863) p. 194.
boulders of trap on, (1863) p. 894.
Chazy and Trenton Formations of, (63-66) p. 170.
- Lacloche Mountains, Ont., estimated height of, (1863) p. 5.
- Lacolle, Que., crystals of quartz found in soil, (1863) p. 500.
- Lacolle Seignory, Que., peat bog on borders of, (1863) p. 782.
- Lacustrine marls of Southern New Brunswick, (77-78) pp. 34-35 EE.
- La Dalle, Saguenay River, Que., garnetiferous gneiss, (82-84) p. 6 D.
- Ladles and spoons used by Haida Indians, figs. 6 and 27, (78-79) p. 142 B.
- Ladners Creek, Coquihalla River, B.C., direction of valley, (77-78) p. 41 B.
gold on, (77-78) p. 156 B.
monotitis shales exposed near, (77-78) p. 71 B.
- Lady Dufferin Lake, Montreal River, Ont., description of, (75-76) pp. 299-300.
- Lafavorita Island, Swan Lake, Man., rock exposures, (74-75) p. 60.
- Lafesties Brook, Percé, Que., base of Bonaventure Formation at, (1863) p. 439.
- LAFLAMME, J. C. K., progress of work by, in Saguenay district, Que., (82-84) p. 12.
letter transmitting report, (82-84) p. 3.
report on geology of Saguenay region, (82-84) pp. 5-18 D.
- Laggan, C.P.R., assay of copper ore from Silver City, (82-84) p. 3 MM.
- La Grange Island, Nipigon Bay, Ont., note on rocks of, (1863) p. 79.
- La Hache Lake, B.C., height above sea, (75-76) p. 125.
- Lake Abatogomaw, Que., chloritic schists, dolomites, etc., of, (70-71) p. 291.
copper and iron-ores of Paint Mountain, (70-71) p. 296.
granite rocks of, south of Lake Mistassini, (70-71) p. 291.
- Lake Abitibi, Ont., *see* Abitibi Lake.
- Lake Agness, Ont., north of Whitewood Lake, rocks of, (72-73) p. 96.
- Lake Agotawekami, Ont., age of rocks of, (72-73) p. 125.
- Lake Ainslie, N.S., *see* Ainslie Lake.
- Lake Ainslie P.O., N.S., note on Lower Carboniferous rocks of vicinity of, (82-84) p. 44 H.
- Lake Askatche, St. John Co., Que., rocks of, (70-71) p. 290.
- Lake Ashuapmouchouan, Que., vegetation, fruit, height of, (70-71) p. 297.
- Lake Athabasca, Laurentian rocks of, (75-76) p. 90.
note on fish and game, (75-76) pp. 165-166.
- Lake basins, formation of in Southern New Brunswick, (77-78) p. 17 EE.
dependence on rock formations, Shuswap Lakes, B.C., (77-78) p. 25 B.
in western New Brunswick, discussion of origin, etc., (82-84) pp. 15-20 GG.
age and character of in western New Brunswick, (82-84) p. 19 GG.
sequence of events in formation of, (82-84) p. 20 GG.
- Lake Branch, Cascapedia River, Gaspé, Que., character of country, (82-84) p. 11 E.
- Lake Cascapedia, height of above mouth of Salmon Branch, Gaspé, (82-84) p. 9 E.
- Lake Champlain, distribution of Chazy Formation on, (1863) p. 131.
diagrammatic sections of rocks east of, (1863) Atlas.
map of east shore showing distribution of Quebec Group, (1863) Atlas.

Lake Champlain—Cont.

- ores from, used in bloomary furnaces, (66-69) E. p. 276, F. p. 305.
 the Trenton Group exposed on west side of, outline of distribution north of, (1863) pp. 139-140.
 the Utica Formation exposed on, (1863) p. 208.

Lake des Chats, Ottawa River, elevation of, (1863) p. 9.

see also Lac des Chats.

Lake Chaudière, Ottawa River, the Potsdam band on, the Calciferous at Chats Falls, (1863) p. 93

fish remains in nodules on, (1863) p. 917.

Lake Chibogomow, Que., south of Lake Mistassini, schists, etc., of, (70-71) p. 291.

see also Chibogomow Lake.

Lake Coulombe, Que., clay-slates between Aylmer Lake and, (1863) p. 430.

gabbro from west of, microscopic structure of, (80-82) p. 12 A.

Lake Couchiching, Ont., thickness of Trenton Birdseye and Black River Formations on, (1863) pp. 191-193.

analysis of Black River limestone from, (1863) p. 621.

Lake Deception to Cross Lake, Ont., Laurentian rocks on line of C.P.Ry., (80-82) p. 13 C.**Lake Emma, Nipigon River, Ont., position of, boat route from, (66-69) E. p. 337, F. p. 372.****Lake Erie, note on clays of north shore of, (1863) pp. 901-902.**

note on beaches above level of in Ohio and Ontario, (1863) p. 913.

accumulation of iron-sand on, (66-69) E. p. 262, F. p. 290.

Lake expansions in river valleys, drained, terraces and beaches, examples in New Brunswick, (82-84) pp. 18-19 G.G.**Lake Hannah, Nipigon River, Ont., description of, (66-69) E. p. 337, F. p. 373.**

drift pieces of sandstone on, (66-69) E. p. 339, F. p. 374.

Lake Helen, Nipigon River, Ont., description of, (66-69) E. p. 336, F. p. 372.**Lake Huron, southern boundary of Laurentian on, (1863) p. 47.**

breadth of gneissic band on north side of, (1863) p. 48.

sequence of Huronian rocks on and near Sturgeon, Wabnapitae and Whitefish rivers, (1863) p. 52.

description of Huronian rocks with sections, (1863) pp. 55-63.

intrusive granites on, cutting Huronian, (1863) p. 58.

outcrops of Corniferous Formation on, list of fossils, (1863) pp. 371-374.

note on jasper-conglomerate of, (1863) p. 834.

notes on the drift deposits of, (1863) p. 894.

elevated beaches around south side of, (1863) pp. 911-912.

Lake Huron—Cont.

note on surveys made by A. Murray, 1853-1858, (1863) p. 11 Atlas.

map of Huronian rocks on north side of, scale 8 miles = 1 in., (1863) Atlas.

iron-sands near the outlet of, (66-69) E. p. 262, F. p. 290.

explorations by R. Bell in 1876, in vicinity of, (76-77) pp. 193-194.

evidence that present level is of recent date, (76-77) p. 200.

assays of gold and silver ores from, (76-77) p. 480.

Lake Inlet, Cascapedia River, Gaspé, character of country, (82-84) p. 11 E.**Lake Islands, Millbank Sound, B.C., conglomerate sandstone on gneiss, (74-75) p. 76.****Lake Jessie, Nipigon River, Ont., length of, (66-69) E. p. 337, F. p. 372.****Lake Kenogami, Que., thickness of marine clays near, (1863) p. 923.****Lake Lacroix, Minnesota, reference to Bigsby's note on gneisses of, (1863) p. 65.****Lake La Hache, B.C., height above sea, (76-77) p. 125.****Lake Law, Inverness Co., N.S., pre-Cambrian rocks in brooks entering, (82-84) p. 10 H.**

pre-Cambrian rocks of, (82-84) p. 28 H.

Lower Carboniferous of, difference in level between Lake Law and Middle River, (82-84) p. 50 H.

glacial striae at, (82-84) p. 77 H.

note on scenery of, (82-84) p. 84 H.

Lake Louisa, near Aylmer Lake, Que., intrusive granite near, (1863) p. 430.**Lake Manitoba, character of shore of west side, Devonian age of rocks, (74-75) p. 37.**

rocks at Narrows and Steep Rock Point, (74-75) p. 37.

elevation given by C.P.R. surveys, (74-75) p. 49.

general description of, (74-75) p. 62.

Lake Manitou, Manitoulin Island, Ont., note on, (63-66) p. 166.

see also Manitou Lake.

Lake Maria, Nipigon River, Ont., length of, (66-69) E. p. 337, F. p. 372.

mica-schist and Huronian rocks, (66-69) E. p. 339, F. p. 374.

ice grooves, (66-69) E. p. 352, F. p. 389.

Lake Matapedia, Que., height and area of, (1863) p. 4.

rocks of Quebec Group and Gaspé Series, fossils of Gaspé limestones, (1863) pp. 413-415.

elevation of stratified clays, (1863) p. 922.

metamorphic rocks of, (82-84) p. 19 F.

the Silurian rocks on, (82-84) p. 29 E.

Lake Matapedia Map-sheet, parts of Rimouski and Bouaventure Cos., Que., issued in 1884.**Lake Matawagogig, Ont., rocks on streams south of, (72-73) p. 123.**

timber of hills near, (72-73) p. 132.

Lake Mattagaming, Ont., re-survey of, made by R. Bell, 1877, (77-78) p. 3 C.

- Lake Memphremagog, Que., deposits of chrome-iron, analysis of, (1863) p. 504.
note on galena locality on shores of, (1863) p. 691.
limestone burned for making lime at, (1863) p. 803.
contact of Silurian rocks with granite of, (80-82) p. 5 A.
see also Memphremagog Lake.
- Lake Métis, Que., deposit of marl noted in lower lake of, (1863) p. 766.
- Lake Mijicowaja, Ont., Laurentian rocks of, (72-73) p. 131.
- Lake Mistassini, Que., survey of Abatagoush Bay, estimate of size of lake, (70-71) p. 285.
flat-lying fossiliferous limestones of, (70-71) pp. 294-295, and (71-72) p. 119.
obscure fossils from limestones of, (70-71) p. 295.
soil, topography, vegetation, (70-71) p. 302.
Huronian rocks on Little Perch River, (70-71) p. 118.
surveys of part of, performed by W. McOuat, 1871, (71-72) p. 118.
general description of, (71-72) p. 118.
to Lake St. John, report of exploration by W. McOuat, (71-72) pp. 115-119.
- Lake of the Mountains, Blind River, Ont., Huronian limestone band reaching, (1863) p. 841.
- Lake Nicolet, Que., note on asbestos mining on Big Island, (80-82) pp. 7-8 GG.
- Lake Nipigon, Ont., geographical description, height above Lake Superior, depth, (66-69) E. p. 339, F. p. 375.
rivers entering, (66-69) E. p. 340, F. p. 376.
prominent points or capes of, (66-69) E. p. 341, F. p. 376.
geological features of east side, (66-69) E. pp. 341-345, F. pp. 377-381.
geological features of west side, (66-69) E. pp. 345-349, F. pp. 381-386.
loose rocks observed on islands of, (71-72) p. 104.
traverse of islands from Nipigon House to Ombabika Bay, (71-72) p. 102.
small outlet from South Bay to Lake Hannah, (71-72) p. 102.
analyses of hematite from east side and from the Inner Barn, (73-74) p. 225.
additional notes on geology of, (71-72) pp. 103-105.
to Albany River, survey of canoe-route, (71-72) pp. 106-108.
- Lake Nipissing, Ont., estimated height and area, (1863) p. 6.
Laurentian limestones on, referred to, (1863) p. 46.
references to hematite deposits, (1863) p. 509.
Huronian boulders common on, (1863) p. 894.
red, blue and buff clays on Red Clay River, (1863) p. 906.
Algoma sands of vicinity, (1863) p. 908.
see also Nipissing Lake.
- Lake Nikoubau, Lake St. John Co., Que., Laurentian rocks of, (70-71) p. 288.
rocks of, (70-71) p. 290.
soil, forests, vegetation, (70-71) p. 298.
area of good timber, (70-71) p. 301.
height above sea, (70-71) p. 301.
to Mistassini, character of country, (70-71) p. 301.
- Lake Nomandin, Que., rocks of watershed between St. Maurice and Ashuapmouchouan rivers, (70-71) p. 290.
- Lake Obikoba, Lonely River, Ont., granite rocks, (72-73) p. 121.
- Lake Ontario, general description of southern rim of, ridge of Laurentian at outlet, (1863) p. 10.
note on boulders on shores of, (1863) p. 895.
note on old beaches around, elevations above lake, (1863) pp. 914-915.
- Lake Opsatika, north of Temiscaming Lake, description of lake, Huronian rocks, (72-73) pp. 122-123.
gneiss and granite veins, (72-73) p. 121.
magnetite and magnetic iron-pyrites, (72-73) p. 132.
magnetite from chloritic rocks, (73-74) p. 205.
see also Opsatika Lake.
- Lake Pakowagaming, Ont., intrusive granites south of, (1863) p. 58.
fault in Huronian at, (1863) p. 62.
- Lake Pakowki Coulée, Alta., peculiar feature of Milk River at, (82-84) p. 15 C.
- Lake Pakowki, Alta., note on, area, old channels, (82-84) p. 16 C.
- Lake Panache, Ont., analysis of Huronian limestone from extremities of, (1863) p. 596.
- Lake Papineau, Que., Grenville limestone band at, (1863) p. 836.
- Lake Pemscashie, Upper St. Maurice River, Que., hornblende rocks, (70-71) p. 290.
- Lake Pohenegamook road, Kamouraska, Que., rocks exposed, (66-69) E. p. 139, F. p. 154.
- Lake Ste. Anne, Gaspé, Que., description of, (82-84) p. 7 F.
sandstones and intrusive granite, (82-84) p. 21 E.
- Lake St. John, Que., height and area of, estimated, (1863) p. 6.
outlier of Trenton Group on, description and fossils of, (1863) pp. 164-165.
mineral resembling allanite found at, (1863) p. 505.
note on limestones of, for building purposes, (1863) p. 819.
marine clays in valley of, (1863) p. 923.
terraces of, having a north-west slope, (82-84) p. 17 D.
to Lake Mistassini, report of exploration by W. McOuat, (71-72) pp. 115-119.
description of canoe-route, (70-71) pp. 283-285.
see also St. John Lake.

- Lake St. John basin of Cambro-Silurian rocks, description of outlying exposures, (82-84) pp. 13-16 D.
- Lake St. John, Rama Tp., Ont., the Trenton outcrop at, character of the beds, (1863) p. 191.
- Lake St. John Co., Que., observations of J. C. K. Laflamme on geology of Saguenay region, (82-84) pp. 5-18 D.
for general geology see Part I, p. 9.
- Lake St. Francis, Que., occurrence of andalusite noted, (1863) p. 499.
argillite containing andalusite, (1863) p. 617.
no gold found in clays, (63-66) p. 66.
- Lake St. Louis, St. Lawrence River, Que., elevation of, (1863) p. 10.
Potsdam sandstone on, (1863) p. 90.
the Calciferous sandrock of vicinity of, (1863) p. 114.
Chazy Formation at, (1863) p. 131.
- Lake St. Peter, Que., note on height of above mean tide-level, (1863) p. 109.
Leda clay found in bed of, (1863) p. 920.
- Lake Shebandowan, Ont., Huronian band, (72-73) p. 107.
- Lake Simcoe, Ont., height of, (1863) p. 12.
thickness of Trenton on, (1863) p. 193.
boulders on shores, note on, (1863) p. 895.
- Lake Simon, Rouge River, Que., analysis of garnet from, (1863) p. 496.
- Lake Superior, note on orthoclase gneiss of, (1863) p. 48.
description of Huronian slates near Doré River, with section, (1863) pp. 52-55.
rocks of Upper Copper-bearing Series, description and distribution, (1863) pp. 67-86.
description of rocks of east side, from Michipicoten to Sault Ste. Marie, (1863) pp. 82-86.
locality for heavy-spar on, (1863) p. 458.
note on lead-bearing veins, (1863) pp. 689-690.
note on early explorations of copper-bearing region, references to reports on, (1863) p. 699.
northern drift on shores of, fossiliferous limestone, (1863) p. 893.
ancient beaches at higher levels of, (1863) pp. 912-913.
report on east shore by T. Macfarlane, (63-66) pp. 115-147.
Laurentian of east shore, (63-66) pp. 115-122.
granites of east shore, (63-66) p. 119.
Huronian of east shore, (63-66) pp. 123-129.
Upper Copper-bearing Series, (63-66) pp. 132-143.
copper deposits of, compared with Harvey Hill, Que., (63-66) p. 145.
list of streams entering, in order of size, (66-69) E. p. 336, F. p. 371.
north shore, between Nipigon and Michipicoten rivers, report by R. Bell, (70-71) pp. 322-351.
progress of mining, (72-73) pp. 108-111.
assays of gold and silver ores from, (76-77) p. 419.
- Lake Superior—*Cont.*
east shore, geology of, (76-77) pp. 213-220.
plants from Nelson Valley common to, giving range westward, list of, (79-80) p. 67C.
list of mines in operation in 1882, (80-82) p. 17.
to Red River, notes on geology of route from, (73-74) pp. 87-90.
- Lake Talon, Ont., crystalline limestone on, referred to, (1863) p. 46.
- Lake Temiscaming, estimated height and area, (1863) p. 6.
boundary of Laurentian near, (1863) p. 48.
moraine at Hudson's Bay Co.'s post, (1863) p. 895.
assay of galena (argentiferous) from, (77-78) p. 52 G.
and River Blanche, for map of part showing geology *see* Map of basin of Moose River, accompanying Part C, (80-82)
see also Temiscaming Lake.
- Lake Temiscouata, Que., exposures of Gaspé limestone on, (1863) pp. 419-425.
diagram showing contorted slates, (1863) p. 425.
see also Temiscouata Lake.
- Lake terraces on Manitoulin Island, Ont., (63-66) p. 178.
- Lake of Three Mountains, Rouge River, Que., albite veins on north side, (1863) pp. 36, 477.
anorthositic gneiss flanking limestone bands, (1863) p. 838.
- Lake Tp., Ont., galena localities, description of, (63-66) p. 104.
copper-pyrites in, (63-66) p. 106.
map, scale 4 m. = 1 in., (66-69) E. p. 143, F. p. 159.
Red Mountains, rocks of lower division, (66-69) E. p. 147, F. p. 163.
assays for gold from localities in, (66-69) E. p. 171, F. p. 190.
galena localities in, (66-69) E. p. 163, F. p. 181.
note on copper and gold ores, (74-75) p. 160.
- Lake Traverse, St. Maurice River, Que., Laurentian rocks of, (70-71) p. 290.
character of country near, (70-71) p. 300.
length, topography, (70-71) p. 300.
- Lake of Two Mountains, Ottawa River, width of Potsdam sandstone belt, rocks of Mt. Calvaire and Rigaud, (1863) p. 91.
- Lake Utopia, Charlotte Co., N.B., gray petrosilicious rocks, (70-71) p. 92.
ridges of granite at north end of, (70-71) p. 185.
section of Mascarene Series, (70-71) p. 149.
gravel ridges at, (77-78) p. 15 EE.
- Lake Wabbiqekobing, Ont., anticline in Huronian rocks north of, (1863) p. 62.
- Lake Wabbiqekobings, Ont., fault in Huronian limestone band in contact with gneiss, (1863) p. 62.

- Lake Wakinitche, south of Lake Mistassini, slates, serpentines and sandstones, (70-71) p. 244.
portages, height, area, soil, (70-71) p. 302.
- Lake Winnipeg, stratified deposits of east shore, sections, (72-73) p. 17.
position of boulders in sand cliff, south-east shore, (72-73) p. 18.
rocks of east shore, Dog Head southward, Laurentian and Huronian, (74-75) p. 39.
note on dolomites of west shore, Little Saskatchewan River to Dog Head, (74-75) p. 39.
elevation of from C.P.Ry. levelling, (74-75) p. 49.
report on track-survey by R. Bell of part of east shore, map 8 m. = 1 in., accompanying, (77-78) pp. 22-23 CC.
fall in Nelson River, from, (77-78) p. 4 CC.
notes on surveys and map of, compiled by R. Bell, (77-78) p. 23 CC.
geological notes on east shore of, with list of observed strikes of gneiss, (77-78) pp. 23-24 CC.
east side, clay deposits inland from lake, (77-78) p. 23 CC.
list of glacial striæ observed on east shore, (77-78) p. 27 CC.
map of, scale 8 m. = 1 in., accompanying, (77-78) CC.
number of species of fish determined in, (78-79) p. 6 C.
list of plants from north end of, (78-79) pp. 53-60 C.
variation of magnetic needle at points on, (78-79) p. 72 C.
- Lake Winnipegosis, Man., fossils described by H. Y. Hind, from Devonian rocks of Snake Island, (73-74) pp. 52-53.
length, bays, Point Wilkins, beaches, (74-75) p. 61.
general description, (74-75) pp. 61-62.
Devonian rocks of, (74-75) pp. 67-68.
salt works at mouth of Bell River, (74-75) p. 69.
analysis of brine from south end of, (74-75) p. 70.
- Lake of the Woods, Ont., Huronian rocks of northern part, (72-73) p. 104.
notes on geology of, (73-74) p. 89.
limestone drift of, possible origin, (74-75) p. 43.
list of glacial striæ observed on, (74-75) p. 45.
elevation given by C.P. Ry. surveys, (74-75) p. 49.
assay of iron-pyrites, from 25 miles south-west of Rat Portage, (78-79) p. 20 H.
assay of gold-bearing quartz from 12 miles south-east of Rat Portage, (78-79) p. 23 H.
summary of explorations on in 1883, (82-84) pp. 5-7.
note on work proposed for 1884, (82-84) p. 24.
and adjacent country, report by R. Bell on geology of, with map, scale 4 m. = 1 in., (80-82) pp. 11-15 C.
- Lake of the Woods, Ont.—*Cont.*
note on Huronian rocks of, (80-82) p. 15 C.
note on economic minerals, gold from Hay Island, copper-pyrites and galena, (80-82) p. 15 C.
report on gold mines of, by E. Coste, (82-84) pp. 5-22 K.
general note on geological relations of gold-bearing areas, (82-84) pp. 6-7 K.
general conclusions as to value of as gold-bearing district, (82-84) p. 20 K.
assays of gold ores from claims and mines on, (82-84) pp. 8-15 MM.
- Lake of the Woods Mining Company, description of location near Big Stone Bay, (82-84) p. 13 K.
assay of ore for gold and silver from claim, (82-84) p. 15 MM.
- Lakelse River and Lake, Skeena Valley, B.C., description of, (79-80) p. 11 B.
- Lakes, of Northern British Columbia, general note on, (79-80) pp. 24-25 B.
in Southern Cape Breton Island, N.S., character of formation of, (79-80) p. 112 F.
in Frontenac and Addington Cos., Ont., levels of, by A. Murray, (72-73) p. 174.
glacial origin of, general note on, (1863) p. 889.
geological relations of the Great Lakes, (1863) p. 17.
of Laurentides, general description and heights of several, (1863) p. 6.
origin of, north of Lake Winnipeg, Man., (77-78) p. 26 CC.
of Notre Dame Mountains, height and area of, (1863) p. 4.
retained by gravel ridges in Southern New Brunswick, examples of, (77-78) p. 18 EE.
in N.W.T., drying up, journal of A. R. C. Selwyn, (73-74) p. 27.
of the Ottawa River, note on elevations and navigation, (1863) p. 9.
of Central Ontario, in valley of Trent River, heights of, (1863) p. 11.
of the St. Lawrence, giving heights and areas, (1863) p. 7.
- Lambton Co., Ont.:—
for general geology see Part I, p. 13.
- Lambton Mills, Ont., exposure of Hudson River limestone at Fisher's mills, Humber River, (1863) p. 213.
- Lambton River, Lambton Tp., Que., alluvial gold on, angular nuggets found, (63-66) p. 66.
- Lambton Tp., Que., thick stratum of clay, (63-66) p. 65.
gold diggings cannot be wrought with profit, (63-66) p. 65.
small mass of gold found different from usual form, (63-66) p. 65.
examination of streams for gold, (63-66) p. 65.
- Lake St. Francis, no gold found in clays of, (63-66) p. 66.
mechanical assay of quartz from, (63-66) p. 75.

- Lamellibranchiata, of Birdseye and Black River Formations, wood-cuts of typical species, (1863) p. 143.
 of the Calciferous Formation, wood-cuts of *Conocardium Blumenbachii*, Billings, (1863) p. 113.
 of the Chazy Formation, wood-cut of *Vanuxemia Montrealese*, Billings, (1863) p. 131.
 of the Corniferous Formation, wood-cuts of, (1863) p. 375.
 of the Hudson River Formation, wood-cuts of, (1863) pp. 212-213.
 of the Trenton Group, wood-cuts of, (1863) pp. 170-176.
- Lamey Brook, Inverness Co., N.S., quartzite, character of, (79-80) p. 25 F.
 Devonian rocks of, (79-80) pp. 52-53 F.
 Carboniferous rocks of, plaster and limestone of, (79-80) pp. 96-97 F.
- Lamiron-dieres Bay, Rutherford Tp., Ont., rocks of north shore, (76-77) p. 209.
- Lanark, Ont., banded limestone, top of group IV., (74-75) p. 150.
- Lanark band of crystalline limestone, characters and distribution, (73-74) p. 104.
- Lanark Co., Ont., analysis of raphilite from, (1863) p. 466.
 work in 1870 by H. G. Vennor and G. Broome, (70-71) p. 8.
 report on part of, in abstract report by H. G. Vennor, (70-71) pp. 309-315.
 summary of work in, by H. G. Vennor, 1871, (71-72) p. 120.
 notes on and assays of iron-ores of, (71-72) pp. 121-123.
 phosphate locality worked in 1871, (71-72) pp. 123-129.
 report by H. G. Vennor on, being part of report, (72-73) pp. 136-179.
 limestone bands in Laurentian of, (72-73) p. 160.
 report on crystalline limestones and apatite deposits of North Burgess, (73-74) pp. 104-106, 109-139.
 map of, geologically shaded, by H. G. Vennor, (74-75) facing p. 105.
 progress report by H. G. Vennor on surveys in rear portion of, (74-75) pp. 105-165.
 summary of surveys made by H. G. Vennor, 1874, (74-75) p. 106.
 iron-ore deposits of, (74-75) pp. 112-122.
 geological structure of rear portion of, (74-75) pp. 122-158.
 classification of rocks of, (74-75) pp. 122-123.
 explanation of section across, (74-75) p. 123.
 rocks of group I, (74-75) p. 124-130.
 the mica-schist group of rocks of, general characters and distribution, (74-75) pp. 124-130.
 red gneiss area of northern part, (74-75) p. 129.
 rocks of group II, dolomite and slate group, (74-75) pp. 130-135.
 group III, diorite and schist group, characters and subdivisions, (74-75) p. 135.
- Lanark Co., Ont.—*Cont.*
 group III, diorites and hornblende-schist, distribution of subdivisions, (74-75) pp. 136-140.
 fault or unconformity between groups III and IV., (74-75) p. 140.
 note on mode of occurrence of plumbago, (74-75) p. 164.
 blotched diorites of, found in Parry Sound band of limestones, (76-77) p. 204.
 crystalline limestones of, (76-77) p. 246.
for general geology see also Part I, p. 13.
- Lanark Tp., Ont., width of limestone band, (74-75) p. 140.
 banded limestones, breadth of belt, (74-75) p. 145.
 tremolitic dolomite area in, (74-75) p. 147.
 hornblende-schists, etc., group IV, (74-75) p. 149.
 gneiss and limestone series in, (74-75) pp. 155-156.
 description of banded limestone of, (74-75) pp. 313-314.
 limestones of, referred to, (76-77) p. 252.
 labradorite in, (76-77) p. 261.
- Lancaster, St. John Co., N.B., Laurentian rocks at, (70-71) p. 44.
 overturned beds, Dadoxylon sandstones and Huronian rocks, (70-71) p. 94.
 section of Huronian on hill behind R. C. chapel, (70-71) p. 94.
 rocks of Devonian Formation exposed near, (70-71) p. 176.
- Lancaster Parish, N.B., gravel ridges in, (77-78) pp. 14-15 EE.
- Lancaster Tp., Ont., the Trenton Group exposed in, (1863) p. 172.
- LANDALE, J. J., report on trials of coal seams, Robinson Creek, Q.C. Is., (72-73) p. 59.
- Land barrier, between central and western Cretaceous areas, (72-73) p. 71.
- Landing Lake, north-west of Nelson River, comparative elevation of, (78-79) p. 29 C.
- Land mollusca collected by R. Bell in Manitoba, 1880, (79-80) pp. 75-76 C.
- Landrie Lake, Richmond Co., N.S., mineral spring on, (79-80) p. 113 F.
- Lands End, Westfield, Kings Co., N.B., section of Kingston Group, (70-71) pp. 121-122.
- Land-slides, in Valley of Pic River, Ont., (70-71) p. 328.
 on northern front of Dirt Hills, Assa., (73-74) p. 77.
 in Peace River valley, below Hudson's Hope, (75-76) p. 50.
 on northern face of Red Ochre Hills, South Saskatchewan, (73-74) p. 75.
 in the Souris River, showing apparently two seams, wood-cut, (79-80) p. 7 A.
 in streams of Inverness Co., N.S., note on, p. 113 F.
 in clays of terraces at Murray Bay and Bay St. Paul, Que., note on, (1863) p. 923.
- Langley, B.C., coal at, (76-77) p. 145.

- Langley's mill, St. John, N.B., section on west side of Narrows, (70-71) p. 37.
- Lanoraie, Que., mineral spring near, reference to analysis of water, (1863) p. 539.
- analysis of mineral water from, (1863) p. 548.
- copper-ores found in, shaft sunk on vein, (1863) p. 693.
- Lanoraie, Augmentation of, Que., deposit of pyrites in, referred to, (1863) p. 513.
- Lanoraie, Seignory of, Que., peat bogs in, (1863) p. 781.
- and Dautraye, Seignory of, deposits of ochre referred to, (1863) p. 769.
- Lansdowne Tp., Leeds, Ont., the Potsdam sandstone of, thickness, fossils, (1863) p. 92.
- beds showing passage from Potsdam to Calciferous, note on, (1863) p. 102.
- occurrence of veins of barytes noted, (1863) p. 458.
- note on galena in Laurentian of, (1863) p. 516.
- iron-ores in, indication of, (1863) p. 682.
- note on galena deposits of, (1863) p. 688.
- occurrence of barytes noted, (1863) p. 771.
- note on working of galena lode, (74-75) p. 163.
- note on galena locality owned by Canadian Lead Mining Co., (82-84) p. 9 L.
- LA PEROUSE, voyage of 1786, on West Coast, discovered insular character of Queen Charlotte Islands, (78-79) p. 9 B.
- La Plaine, Que., bog-ore deposit of, extent, (1863) p. 684.
- manganese ore found in, (1863) p. 752.
- La Portage, Rivière du Loup Tp., Que., Lauzon rocks in vicinity of, (66-69) E. p. 132, F. p. 147.
- fossils in beds above Levis, (66-69) E. p. 132, F. p. 147.
- Laprairie, Que., trap floors in Utica shales, (1863) p. 207.
- Laprairie Co., Que.:—
for general geology, see *Part I.*, p. 9.
- Laramie Formation, use of term in reference to rocks of N.W.T., (80-82) p. 2 B.
- divisions of in Southern Alberta, characters, mode of deposition, thickness, (82-84) pp. 112-114 C.
- estimate of thickness on Waterton River, (82-84) p. 66 C.
- this section of on Milk River Ridge, (82-84) p. 125 C.
- of Southern Alberta, general characters, coal-bearing zone at base, (80-82) pp. 6-7 B.
- Laramie period, conditions of deposition during the, (79-80) p. 134 B.
- Laramie rocks, of Bow River, general description of, (82-84) pp. 80-89 C.
- of Highwood River, (82-84) pp. 103-104 C.
- of Old Man River, below Fort McLeod, (82-84) pp. 67-68 C.
- Laramie rocks—*Cont.*
disturbed belt and Porcupine Hills syncline, diagrammatic sections, (82-84) facing p. 106 C.
- of Red Deer River, sections, note on coal seams, (82-84) pp. 93-95 C.
- of St. Mary River, sections and descriptions, (82-84) pp. 54-58 C.
- of Scabby Butte, transition beds at base, (82-84) p. 79 C.
- Larch, range northward in Canada, (79-80) p. 44 C.
- Larch Tree Hill, east of Osoyoos Lake, B.C., description of, (82-84) p. 20 B.
- L'Ardoise and St. Peters, N.S., coast section of Devonian, (77-78) p. 17 F.
- L'Ardoise Head, N.S., Devonian rocks at, (77-78) p. 17 F.
- L'Ardoise Map-sheet, N.S., issued 1884, scale 1 m = 1 in.
- L'Ardoise road, N.S., conglomerate of, (76-77) p. 441.
- Laurentian rocks of, succession of, (76-77) p. 417.
- exposures of Millstone Grit on, (76-77) p. 447.
- rocks similar to coastal section, (77-78) p. 18 F.
- Large boulders in drift near mountains, Southern Alberta, (82-84) p. 148 C.
- Large Island, Mingan, Que., section of Chazy Formation on, (1863) pp. 134-135.
- the Trenton Group on, (1863) p. 164.
- old sea beaches, water-worn rocks, (1863) p. 924.
- Large-toothed poplar, note on northern range of in Canada, (79-80) p. 56 C.
- Larix Americana*, Michx., note on northern range of, (79-80) p. 44 C.
- Larix Lyallii*, Parlature, note on occurrence of in British Columbia, (79-80) p. 175 B.
- Larix occidentalis*, Linn., distribution of in British Columbia, (79-80) p. 175 B.
- La Roche Percée, Souris River, N.W.T., analysis of lignite from, (82-84) p. 11 M.
- LARUE, F. A. H., information from on iron-sands, (66-69) E. p. 266, F. p. 294.
- Larue's magnetic machine for purifying magnetic ores, (66-69) E. p. 287, F. p. 317.
- Larue's patent process of smelting iron-ore, (66-69) E. p. 292, F. p. 323.
- La Saline, Athabasca River, note on salt spring at, (82-84) p. 32 CC.
- Laskeek, Q.C.Is., evidence of local glaciers, (78-79) p. 90 B.
- Laskeek Bay, Q.C.Is., description of, (78-79) pp. 25-27 B.
- Laskeek Indian village, Q.C.Is., situation of, (78-79) p. 26 B.
- Lasqueti Island, Gulf of Georgia, B.C., coal rocks of lower shales, Div. B, on, (76-77) p. 169.

- L'Assumption Co., Que.:—
for general geology, see *Part I.*, p. 9.
- Last Chance Creek, B.C., gold workings on, (76-77) p. 138.
- Last Mountain Lake, N.W.T., note on length; position, (73-74) p. 69.
character of outlet of, (73-74) p. 72.
- Lateral pressure, shown in rocks of Marble Canon, B.C., (77-78) p. 90 B.
results of, shown in folds of Quebec Group, (1863) p. 297.
- La Tête Harbour, N.B., rocks exposed, obscure fossils, probably Upper Silurian, (70-71) p. 161.
- La Tête Head, Charlotte Co., N.B., Kingston Series, (70-71) p. 126.
- La Tête Passage, Passamaquoddy Bay, Kingston Group on small islands, (70-71) p. 127.
- Latitude observations taken on Athabasca River, by G. M. Dawson, 1879, (79-80) pp. 161-162 B.
at Fort Churchill, taken by R. Bell, (78-79) p. 23 C.
at C. I. Ry. winter camp on branch of Canoe River, B.C., (71-72) p. 45.
- Latitude of Pictou light and Betty Point, (66-69) E. p. 86, F. p. 96.
- Latitudes determined by A. Webster, in Northern British Columbia and North-west Territories, 1875, (79-80) p. 165 B.
by C. Horetzky, C.P.Ry. survey, 1879, in British Columbia, (79-80) p. 164 B.
by G. M. Dawson in Peace River district, 1879, (79-80) p. 159 B.
on Skeena River and route to Pine River, B.C., (79-80) pp. 157-158 B.
in vicinity of Smoky River, N.W.T., (79-80) p. 160 B.
- Latitudes and longitudes adopted on map of Q.C.Is., notes on by Bovey and Dawson, (78-79) pp. 233-239 B.
- La Trappe, Two Mountains Co., Que., outlier of Lower Helderberg near, (1863) p. 357.
- Lattimore Lake, Simonds Tp., N.B., pre-Silurian rocks of, (77-78) p. 9 DD.
- Laumonite, one of the minerals of amygdaloid of Lake Superior, (1863) p. 481.
veins of, at St. Croix Cove, Bay of Fundy, (82-84) p. 25 L.
general note on occurrence of in upper part of Copper-bearing Series, (1863) p. 75.
- Laurentian area in central part of Albert Co., N.B., (70-71) p. 34.
- Laurentian erratics in Northern Montana, (82-84) p. 147 C.
fragments in drift on D'Echafaud River, Pine River, N.W.T., elevation of, (79-80) p. 139 B.
- Laurentian and Huronian erratics, western limit of near mountains, height to which carried, (82-84) pp. 146-147 C.
- Laurentian drift on Peace River plateau, elevation of, (79-80) p. 140 B.
- Laurentian fossils, statement of discovery, (63-66) p. 14.
first exhibited in 1859, (63-66) p. 14.
examined by J. W. Dawson, (63-66) p. 15.
minerals in, analyzed by T. S. Hunt, (63-66) p. 15.
referred to W. B. Carpenter, (63-66) p. 16.
- Laurentian limestones, earlier writings on, (63-66) p. 182.
general note describing, (1863) p. 591.
and gneisses show softening by heat, (1863) p. 644
note on suitability for making lime, etc., (1863) p. 804.
geology and mineralogy of, (63-66) pp. 181-233.
organic structure of minerals, (63-66) p. 191
researches of American mineralogists, (63-66) p. 193.
organic forms found in, (63-66) p. 183.
of Italy, Algeria and Vosges Mts., (63-66) p. 182.
of New York, (63-66) E. p. 182.
in Ontario, note on occurrences of, (1863) p. 46.
general distribution of bands, (63-66) p. 12.
bands of use in tracing out structure in Laurentian, (70-71) p. 291.
five bands, described by H. G. Vennor, (73-74) p. 104.
characters and distribution in Cape Breton, N.S., (76-77) p. 426.
of the Gatineau River, Que., upper part, (70-71) p. 289.
Vennor's five bands in Central Ontario, (72-73) p. 160.
at Partridge Bay, Ont., (76-77) p. 198.
work of Jas. Lowe in tracing, (71-72) p. 14.
considered as vein-stones, (63-66) pp. 183, 188.
origin of veins in, (63-66) p. 191.
- Laurentian magnetites, discussion of mode of occurrence and mineral associations of, (73-74) pp. 194-205.
- Laurentian mineral veins, (63-66) pp. 186-192.
- Laurentian minerals similar to Scandinavian, (63-66) p. 194.
- Laurentian System, in Canada, general description with sections, (1863) pp. 22-49.
in Scotland, short note on, (1863) p. 22.
difficulties respecting age of rocks associated with, (76-77) p. 245.
probability of two unconformable formations in, (1863) p. 839.
conglomerates in, note on, (1863) pp. 31, 587,
divisions in lower part of, (76-77) pp. 270, 274.
additional notes on characters of in Ontario and Quebec, (1863) pp. 836-841.
note on first supposed fossil found at Grand Calumet, with wood-cuts, (1863) pp. 48-49.
intrusive rocks in, general description of, age of intrusions, (1863) pp. 37-42, 652-655.
Vennor's statement of position of rock groups of Ontario, (75-76) p. 4.
important conclusions respecting, (76-77) p. 245.

Laurentian System—*Cont.*

note on, by H. G. Vennor, (76-77) p. 273.
 conclusions by H. G. Vennor on lower
 divisions of, (76-77) p. 301.
 defined by A. R. C. Selwyn, (77-78) p. 14 A.

Laurentian rocks, general description of series,
 (1863) pp. 586-593.

Laurentian rocks in British Columbia :—
 gneisses of Carp Lake east of Stuart Lake,
 B.C., (79-80) p. 107 B.

Laurentian rocks in Cape Breton Island, N.S.:—
 description of, (76-77) pp. 405-428.
 section of on Little Bras d'Or Lake, (76-77)
 p. 406.

Laurentian rocks in New Brunswick :—
 general distribution of, in Charlotte Co.,
 (70-71) p. 31.

of Charlotte and part of Kings and Queens
 Cos., (70-71) p. 48.

at Dolins Lake, Labradorite hypersthene
 rocks, (70-71) p. 41.

at Moores Lake, mica-schists, staurolite and
 andalusite, (70-71) p. 56.

upper series of in Portland, St. John,
 (70-71) p. 36.

in Southern New Brunswick, original de-
 scription, (70-71) pp. 28-33.

two divisions of, with detailed subdivi-
 sions, (70-71) pp. 30-31.

summary of characters of, (70-71) p. 32.

Pisarinco section, limestones and ser-
 pentines, (70-71) pp. 44.

west of St. John River, (70-71) p. 41.

in St. John Co., northern belt, (70-71) p. 29.

extension of, eastward, (77-78) pp. 9-10 D.

section on St. John River, near Indian town,
 (70-71) p. 34.

at St. Stephen, stratified diorites, serpen-
 tines, (70-71) p. 50.

St. Croix River, gneiss and intrusive gran-
 ite, (70-71) p. 48.

section on Western Extension Ry., (70-71)
 p. 42.

Laurentian rocks, exposures of on west coast of
 Newfoundland, (1863) p. 878.

Laurentian rocks in North-west and North-east
 Territories :—

of East Main coast, Hudson Bay, average
 strike of gneiss, (77-78) pp. 8-9 C.

of Gods and Island Lakes, with table of
 strikes observed, (78-79) pp. 33-35 C.

of Grass River, Nelson River, gneiss, (78-79)
 p. 28 C.

of Jack River, below Knee Lake, character
 of gneiss, (77-78) p. 22 CC.

of Lake Athabasca and Quatre Fourches
 River, (75-76) p. 90.

of the Nelson River, (78-79) p. 27 C.

of boat-route to York Factory, (77-78)
 p. 8 CC.

Laurentian rocks in Ontario :—

Agiwa River, Lake Superior, gneiss of,
 (76-77) p. 217.

Black Sturgeon River, gneiss hills near,
 (66-69) E. p. 333, F. p. 370.

Laurentian rocks in Ontario—*Cont.*

Frontenac, Leeds and Lanark, general
 remarks and details of rocks of, (70-71)
 pp. 310-311.

on Georgian Bay, explorations by R. Bell in
 1876, (76-77) pp. 193, 195.

Kaministiquia River, boundary of Lauren-
 tian north of, (66-69) E. p. 325, F. p. 359.

Lac des Quinze and Mijicouaja Lake, gneiss
 of, (72-73) p. 131.

Lake Superior, gneisses of, (63-66) pp. 115-
 122.

north-west of Lake Superior, (72-73) p. 107.

at Madoc, description of referred to, (63-66)
 p. 91.

in North Hastings, dip and strike of, (63-66)
 p. 97.

on Ombabika River, Lake Nipigon, (71-72)
 p. 108.

of Pic River, (70-71) p. 329.

of Seine River, notes by R. Bell, (72-73)
 p. 98.

at Shibaonaning, Ont., (76-77) p. 208.

Thunder Bay, north-west of, (66-69)
 E. pp. 326-329, F. pp. 360-367.

Laurentian rocks in Quebec :—

summary of investigations on crystalline
 rocks, (77-78) pp. 9-15 A.

general section of in Argenteuil Co., Que.,
 (1863) p. 45.

on upper part of Gatineau River, (70-71)
 pp. 288-289.

north of Lake St. John, Que., (70-71) pp.
 287-288.

of Ottawa, Argenteuil, Montcalm and Two
 Mountains Cos., Que., (1863) pp. 837-841.

of Ottawa, Terrebonne, Argenteuil and Two
 Mountains Cos., Que., map showing dis-
 tribution of, scale 7 m. = 1 in., (1863) Atlas.

of Saguenay region, gneissic series, labra-
 dorite series, (82-84) pp. 6, 7-10 D.

as exposed on north shore St. Lawrence
 River, below Saguenay River, (66-69)

E. p. 306, F. p. 338.

on upper part of St. Maurice River, (70-71)
 pp. 289-290.

Laurentides, structure and heights of, (1863)
 pp. 4-5.

Laurvig, Norway, cost of iron-ore, (66-69)

E. p. 246, F. p. 272.

Lauzon division, of Quebec Group, (63-66) p. 4.

thickness of, (63-66) p. 32.

area crossed by Chaudière River, general
 note on, (1863) p. 241.

coal-like matter in veins, at Lévis, (63-66)
 p. 262.

fossils in shale near St. Pascal Station,
 (66-69) E. p. 132, F. p. 148.

glaucconite shales, (63-66) p. 33.

lithological character, general note on,
 (63-66) p. 32.

lithological character of, north-east of
 Chaudière River, greatest development,
 fossils from Lower St. Lawrence, (66-69)

E. p. 133, F. p. 148.

Lauzon division—*Cont.*

- lower magnesian band north-east of Chaudière River, (66-69) E. p. 135, F. p. 150.
 magnesian deposits absent, north-east of Chaudière River, (66-69) E. p. 130, F. p. 145.
 on second anticline north-east of Chaudière River, Que., (66-69) E. p. 135, F. p. 151.
 in north-west syncline, Dorchester to Kamouraska, (66-69) E. p. 134, F. p. 149.
 in Kamouraska Co., Que., description of area, (66-69) E. p. 132, F. p. 147.
 along St. Lawrence River from St. Ignace eastward, (66-69) E. p. 132, F. p. 147.
 and Sillery not separated in Gaspé Peninsula, (80-82) p. 31 DD.

Lauzon Seignior, Que., copper localities, (63-66) p. 321.

Lauzon and Farnham syncline, general note on, (1863) p. 241.

Laval Co., Que., deposit of sand suitable for moulding, (1863) p. 800.
 deposit of fine silicious sand at mouth of Bras River, (1863) p. 925.
for general geology see Part I., p. 9.

LaValtrie Seignory, Que., peat bogs in, (1863) p. 781.

Law Lake, N.S., pre-Cambrian rocks in brooks entering, (82-84) p. 10 H.
 pre-Cambrian rocks of lake shores, (82-84) p. 28 H.
 Lower Carboniferous rocks, (82-84) p. 50 H.
 fall to Middle River, (82-84) p. 50 H.
 glacial striae at, (82-84) p. 77 H.
 note on scenery, (82-84) p. 84 H.

LAWFORD, CHAS. A., work by as assistant to R. Bell, (79-80) p. 2 C.

Lawlors Lake, N.B., section of Leda clay, with list of fossils, (77-78) pp. 28-29 EE.
 recent lake deposits of marl, fossils in, thickness of deposit, (77-78) p. 35 EE.
 peat beds associated with lacustrine deposits, (77-78) p. 35 EE.

Lawn Hill, Graham Island, B.C., igneous Tertiary rocks, (78-79) p. 85 B.
 to Rose Point, Q.C.Is., description of coast, (78-79) p. 32 B.

Lawn Point, Graham Island, Q.C.Is., sections of clays and sands near, (78-79) p. 91 B.

Lawrencetown, N.S., statistics of gold for 1869, (71-72) p. 150.

Laws Brook, N.B., section of Laurentian on railway, (70-71) p. 41.

LAWSON, A. C., work by as assistant to R. Bell, 1882, (80-82) p. 15.
 work by on Lake of the Woods, summary of, (82-84) pp. 5-7.

Lawson, J. P., section of marsh pit seam measured by, (66-69) E. p. 27, F. p. 31.
 trial pit on red sandstone sunk by, (66-69) E. p. 11, F. p. 12.
 diagrammatic section of coal-bearing strata at Medicine Hat, measured by, (82-84) facing p. 78 C.

Lawson fault, cutting off McBean's eight-foot seam, Pictou Coal-fields, N.S., (66-69) E. p. 33, F. p. 37.
 probable extent of break, (66-69) E. p. 36, F. p. 40.

Lawson road, Queens Co., N.B., felspathic grits on, (70-71) p. 75.

Lawson seam, Lawson slope, Pictou, N.S., examination and analysis of coal, (66-69) E. p. 391, F. p. 433.

LAWTHER, THOS., section of Main seam, Pictou, N.S., supplied by, (66-69) E. p. 74, F. p. 82.

Lazulite from Churchill River, referred to, (78-79) p. 19 C.
 near mouth of Churchill River, Hudson Bay, analysis of, (78-79) p. 2 H.

Leach Island, Lake Superior, reference to rocks of, (1863) p. 82.
 rocks of coast opposite, (76-77) p. 218.

Lead Hills location, Thunder Bay, report by E. J. Chapman, (66-69) E. p. 359, F. p. 397.

Lead Hills mine, McTavish Tp., Ont., character of vein, red marls, (72-73) p. 108.

Lead mine, near mouth of Little Whale River, Hudson Bay, notes on ore, (75-76) p. 324.
 section of rocks, (77-78) p. 13 C.

Lead ores, argentiferous, general note on occurrence of in Eastern Townships, Que., (1863) p. 517.
 reference to localities of occurrence, (1863) p. 738.

in Bedford Tp., Frontenac, Ont., (70-71) p. 314.

in British Columbia, general note on, (76-77) p. 132.

in North Hastings, Ont., (63-66) pp. 103-105.
 in Southern New Brunswick, (70-71) p. 227.
 note on workings for in Eastern Ontario, (74-75) p. 163.

note on occurrence of, near Little Whale River, Hudson Bay, quality of ore, (77-78) p. 20 C.

of Pigeon River, Thunder Bay District, (66-69) E. p. 358, F. p. 396.

in Ontario and Quebec, notes on occurrences with localities, (1863) p. 516.
 descriptions of deposits of, (1863) pp. 687-691.

statistics for 1869-71 for Ontario, (71-72) p. 147.

Lead, sulphuret of, characters of, descriptions of deposits in Ontario and Quebec, (1863) pp. 687-691.

notes on occurrences of in Ontario and Quebec, (1863) pp. 516.

Lead-bearing band, Richmond Gulf, Hudson Bay, (77-78) p. 15 C.

Lead-bearing veins, of Laurentian, (63-66) p. 186.

Leading Island, Skidegate Inlet, Q.C.Is., rocks of agglomerate series, (78-79) p. 69 B.

League of tribes among Haidas of West Coast, (78-79) p. 120 B.

- Leamington, Ont., well at Mersea, (63-66) p. 249.
- Leary lead, at Tangier, N.S., description of, (70-71) p. 267.
- LEATHER, W. B., survey of Merigomish road, (66-69) E. p. 5, F. p. 5.
- Leather Pass, B.C., slates and sandstones of, (71-72) p. 63.
compared with Peace River Pass for railway, (75-76) p. 68.
- Leavings, McLeod-Calgary trail, Alta., note on exposures in Willow Creek at, (82-84) p. 78 C.
- Leckies's patent process of making steel, (66-69) E. p. 296, F. p. 327.
- LE CONTE, J. L., list of coleoptera collected by Peace River Expedition, (75-76) pp. 107-109.
coleoptera determined by, from Nelson and Churchill rivers, (78-79) pp. 65-66 C.
list of coleoptera determined by, from Manitoba and north to Hudson Bay, (79-80) pp. 70-74 C.
lists of coleoptera collected by R. Bell, Lake Superior District and N.W.T. in 1881, (80-82) pp. 29-39 C.
- Le Cras coal seam, Sydney, N.S., note on various outcrops, (74-75) p. 191.
new openings on, (77-78) p. 28 F.
- Leda clay, of Eastern Canada, distribution of, (1863) pp. 915-930.
depth of ocean inferred from fossils found in, (77-78) p. 30 EE.
deposits in Southern New Brunswick, composition and organic remains, (77-78) pp. 22-31 EE.
of New Brunswick, marine invertebrata in, list of, (77-78) pp. 29-30 EE.
sections at various places in Southern New Brunswick, Fairville, Enniskillen Station and Lawlors Lake, (77-78) pp. 23-29 EE.
overlying gravel deposits at Didequash Bridge, N.B., (77-78) p. 17 EE.
section of at Enniskillen Station, N.B., with diagram, (77-78) pp. 25-28 EE.
- Leda truncata*, Gould, wood-cut of right valve, (1863) p. 963.
- Lederite, *see* Sphene.
- Ledge, The, near St. Stephen, N.B., contact of Laurentian and granite, (70-71) p. 49.
- LEE, C. T., assays of copper-ores from Coxheath mine, N.S., made by, (82-84) p. 96 H.
- Lee shoal, definition of, as applied to gravel ridges in New Brunswick, (77-78) p. 12 EE.
- Leech River, B.C., first discovery of gold on Vancouver Island, (71-72) p. 53.
and vicinity, report on by G. M. Dawson, (76-77) pp. 95-102.
road to, from Victoria, B.C., (76-77) p. 95.
estimate of gold taken out, (76-77) p. 144.
position of rocks of, in table of formations, (77-78) p. 173 B.
- Leeds Co., Ont., the Potsdam sandstone of, with section and fossils, (1863) pp. 91-93.
explorations during 1870 by H. G. Vennor and G. Broome, (70-71) p. 8.
report on part of, in abstract report by H. G. Vennor, (70-71) pp. 309-315.
summary of work by H. G. Vennor in 1871, (71-72) p. 120.
notes and assays of iron-ores of, (71-72) pp. 121-123.
phosphate localities worked in 1871, (71-72) pp. 123-129.
report by H. G. Vennor on part of included in, (72-73) pp. 136-179.
limestone bands in Laurentian, (72-73) p. 160.
report on crystalline limestones of, (73-74) pp. 104-106.
iron-ore deposits of, included in, (74-75) pp. 112-122.
for general geology see also Part I., pp. 13-14.
- Leeds Tp., Megantic Co., Que., Quebec Group rocks at Harvey Hill mine, other minerals occurring near, (1863) p. 257.
analysis of chloritoid from, (1863) p. 498.
dolomite in the altered Quebec Group, bitternspar, (1863) p. 456.
carbonate of iron reported in, (1863) p. 508.
reference to iron-ores reported in, (1863) p. 510.
note on gold deposits in rocks at, (1863) p. 519.
magnetic iron-ore deposit in, (1863) p. 677.
copper-bearing beds in, description of Harvey Hill mine, (1863) pp. 724-729.
native gold found with copper ores, references, (1863) p. 730.
molybdenite found at Harvey Hill, note on, (1863) p. 755.
talcose slate used for paints, (1863) p. 767.
Harvey Hill mine, horizon of ore in, (63-66) p. 33.
copper localities in, (63-66) p. 319.
magnetite with chloritic slates, (73-74) p. 205.
analysis of magnetite from lot 7, R. V., (73-74) p. 209.
magnetic ore discovered in, (80-82) p. 3 GG.
- Leckie & Co.'s location, North Burgess, Ont., phosphate mined, (71-72) p. 128.
- LEFROY, J. H., list of variations of compass on Lake Winnipeg, 1843-44, (78-79) p. 72 C.
- LEITCH, JOHN, assistant to Jas. Richardson, 1870, (70-71) p. 283.
table of temperatures recorded by, on Mistassini expedition, (70-71) pp. 304-305.
work during 1871 as assistant to W. McQuat, (71-72) p. 115.
- Lennox Ferry, Richmond, N.S., unconformity of Carboniferous with Devonian metamorphic rocks, (79-80) p. 33 F.
Carboniferous limestones and gypsum of, (79-80) p. 56 F.
note on gypsum quarries and shipment of, (79-80) p. 124 F.
note on limestone quarry at, (79-80) p. 124 F.

- Lepas Bay, Graham Island, Q.C.Is., trail from Parry Passage to, character of coast southward, (78-79) p. 40 B.
- Leperditia Canadensis*, Jones, in Niagara, of Cockburn Island, Ont., (66-69) E. p. 114, F. p. 129.
- Leperditia beds in Chazy of Huntley Tp., Ont., (1863) p. 128.
- Lepidodendron* in Millstone Grit of L'Ardoise road, N.S., (76-77) p. 447.
- Lepidodendron Gaspianum*, Dawson, wood-cuts of, (1863) p. 400
- Lepidoptera, list of, from Churchill and Nelson rivers and west coast of Hudson Bay, (78-79) pp. 63-64 C.
- collected in 1882 by R. Bell in North-west Territories, (82-84) pp. 36-37 CC.
- list of, collected by R. Bell, Hudson Strait, 1884, (82-84) p. 61 DD.
- Lepinay Tp., Que., areas of Sillery sandstones in, (1863) p. 258.
- Lepreau, N.B., fault near, (70-71) p. 180.
- veins of magnetic oxide of iron, (70-71) p. 223.
- red freestone for building, (70-71) p. 234.
- anthracite in Devonian rocks, character and position of seam, (76-77) p. 345.
- rocks in vicinity of coal mine (78-79) p. 13 D.
- to Little New River, colored section, on sheet accompanying, (78-79) D.
- Lepreau coal mine, N.B., character of seam, description of mine, (78-79) p. 13 D.
- Lepreau Basin, N.B., rocks of narrow belt of Huronian, (70-71) p. 96.
- Devonian rocks of, Dadoxylon sandstone, (70-71) p. 176.
- Devonian belt of rocks, general description, (78-79) pp. 12-13 D
- Lepreau Harbour, N.B., Laurentian rocks west of, (70-71) p. 48.
- schistose rocks, probably Huronian, (70-71) p. 93.
- Devonian rocks on south-east side, (70-71) p. 177.
- patches of conglomerate of Perry Group, (70-71) p. 203.
- small seams of anthracite coal, (70-71) p. 229.
- to Beaver Harbour, rocks of Coastal Group of New Brunswick, (70-71) pp. 92-94.
- Lepreau River. N.B., exposures of Kingston Group seen on, (78-79) p. 5 D.
- Leptæna decipiens*, Billings, wood-cuts of, (1863) p. 231.
- Leptæna sericea*, Sowerby, wood-cuts of, (1863) p. 163.
- Leptæna sordida*, Billings, woods-cuts of, (1863) p. 231.
- Leptocælia concava*, Hall, wood-cuts of, (1863) pp. 369, 957.
- Leptocælia flabellites*, Conrad, wood-cuts of, (1863) p. 369.
- Leptocælia imbricata*, Hall, wood-cut of, (1863) p. 957.
- Lepton rude*, Dall., description of specimen from Virago Sound, B.C., (78-79) p. 198 B.
- Les Caps, St. Andrew, Que., width of quartzite bands, (1863) p. 259.
- Les Crapauds, Que., description of exposures of shales and conglomerates, (1863) p. 263.
- Les Eboulements, Seignory of, Que., Trenton Formation in, (1863) p. 162.
- Les Ecorchés, Murray Bay, Que., sandstone or quartzite of, foot note giving age as Laurentian, (1863) p. 96.
- the Trenton limestone at, (1863) p. 162.
- Les Islets, Que., descriptions of exposures of shales and conglomerates, coaly matter in cracks of, (1863) p. 264.
- sandstones of coast, (80-82) p. 27 DD.
- Les Grands Sables, Lake Huron, boundary of Huronian rocks near, (1863) p. 55.
- LESLEY, J. P., information from, (63-66) p. 240.
- comments on Hodge's report on coal of Rocky Mts., (73-74) p. 56.
- sections of Coal Measures at Little Glace Bay, N.S., published by, (73-74) p. 177.
- referred to relative to age of salt deposits in Virginia, (76 77) p. 237.
- remarks on T. S. Hunt's report *re* Quebec Group, (77-78) p. 3.
- Les Muraïlles, Gaspé, Que., rocks of, (1863) p. 438.
- Les Roches Noires, Gaspé, Que., interstratified trap in Bonaventure Formation, (1863) p. 441.
- Lessard Seignory, Que., note on quartzite ridge of, (1863) p. 258.
- Lesser Slave Lake, Alta., grain crops at in 1879, condition of gardens, (79-80) p. 70 B.
- description of by G. M. Dawson, (79-80) p. 83 B.
- description of by R. G. McConnell, (79-80) pp. 89-90 B.
- description of country north of, (79-80) p. 91 B.
- geological features, limestone outcrop, (79-80) p. 92 B.
- and vicinity, map scale 8 m. = 1 in.; Sheet III (79-80) B.
- three routes from Edmonton to, (79-80) p. 91 B.
- description of country along road to Peace River and trail to Fort Assiniboine, (79-80) pp. 88-93 B.
- to Lac La Piche, short railway route by Moose and Calling rivers, (79-80) p. 85 B.
- Lesser Slave River, Alta., description by G. M. Dawson, character of banks and surrounding country, (79-80) pp. 82-83 B.
- L'Etang Harbour, Charlotte Co., N.B., rocks exposed, (70-71) p. 86.
- L'Etang Peninsula, N.B., limestones for making lime, (70-71) p. 232.

- L'Etang River, Charlotte Co., N.B., chloritic beds, Coastal Group, (70-71) p. 87.
rocks of, (76-77) p. 334.
gravel ridges near Lake Utopia, (77-78) p. 15 EE.
- Letite Passage, Bay of Fundy, tidal erosion in, (77-78) p. 19 EE.
- Letite Peninsula, N.B., rocks of, referred to Huronian, (78-79) p. 5 D.
- Levant Tp., Lanark, Ont., mica-schists with diorites, (70-71) p. 311.
copper-ores in calc-schists, gold in quartz veins, (70-71) p. 314.
assays of gold-ores from, by B. J. Harrington, (71-72) p. 141.
the mica-schist group in, (74-75) pp. 125-126.
rough nature of country, (74-75) p. 126.
red hematite in red gneiss area, (74-75) p. 130.
section of rocks of dolomite and slate group, breadth of band, (74-75) p. 131.
copper-bearing rocks, (74-75) p. 133.
gold-bearing rocks, (74-75) p. 133.
similarity of slate group II. to Hastings Series, (74-75) p. 133.
uniformly granular and speckled diorites, (74-75) p. 136.
note on former mining of copper ores, (74-75) pp. 161-162.
trough of rocks in, (76-77) p. 249.
gneiss mountains of, (76-77) p. 249.
dolomites and mica-slates of, (76-77) pp. 252-253.
horizon of, (76-77) p. 253.
silvery mica-schist, horizon of, (76-77) p. 253.
mica-schists of, (76-77) p. 253.
- Levels of lakes, rivers, etc., method of determining by R. Bell, (70-71) p. 324.
- Levels of lakes in Frontenac and Addington Cos., Ont., by A. Murray, 1852, (72-73) p. 174.
on Grand Trunk Railway, in Western Ontario, (1863) p. 15.
of the great lakes, note on comparative heights, (1863) p. 13.
- Lever Lake, Cape Breton Co., N.S., Carboniferous outliers, (77-78) p. 23 F.
- Lévis Co., Que., bitumen and coal-like matter in veins, (63-66) p. 262.
for general geology see Part I., p. 9.
- Lévis Co., N.Y., calcite veins, (63-66) p. 186.
- Lévis Formation, conglomerates of, compared with Stanbridge conglomerates, fossils common to both, (1863) p. 860.
position of, as a division in Quebec Group, (63-66) p. 4.
characterized by fossils, thickness of, (63-66) p. 31.
lithological characters, (63-66) p. 32.
found to be above Sillery Formation, (80-82) p. 16 DD.
rocks of, seen on Dartmouth River, Gaspé, Que., (80-82) p. 12 DD.
- Lévis Formation—*Cont.*
on second anticline, north-east of Chaudière River, Que., (66-69) E. p. 135. F. p. 150.
exposed on Marsouin River, Que., (1863) p. 267.
on west coast of Newfoundland, (1863) p. 293.
section of, on Orleans Island, Que., (1863) p. 227.
at Phillipsburgh, Que., sections and illustrations of fossils, (1863) pp. 275-280.
rocks, of west of St. Anne River, Que., fossils collected from shales of, (80-82) p. 25 DD.
and Sillery sandstones of Gaspé Peninsula, (80-82) pp. 24-31 DD.
- Lewys Island Railway, St. Croix River, N.B., contact of schists and granites on, (70-71) p. 56.
- Lewis Mountain, Cape Breton Island, N.S., occurrence of iron-ore noted, (82-84) p. 91 H.
- Liard River, B.C., note on gold workings on, (76-77) p. 140.
- Library of Geological Survey, number of volumes in, object of, (73-74) p. 15.
list of additions to, during 1874-75 by presentation, exchange and purchase, (74-75) pp. 17-23.
from April, 1875, to April, 1876, (75-76) pp. 22-27.
for 1876-77, (76-77) p. 9.
during 1877-78, (77-78) pp. 11-19.
during 1879, (78-79) pp. 7-14.
for 1879-80, (79-80) p. 8.
for 1881-82, (80-82) pp. 30-44.
for 1883, (82-84) pp. 29-46.
retirement of librarian J. White, temporary appointment of A. B. Perry, (80-82) p. 11.
publications distributed during 1882, books bound, (80-82) p. 27.
number of reports distributed, 1883, (82-84) p. 23.
- Libby's opening for coal on Newcastle River, N.B., (72-73) p. 201.
- LIEBER, O. M., on age of quartz veins and beds, (70-71) p. 259.
- Lieutenant Pond, N.S., syenite of, (76-77) p. 407.
Carboniferous rocks of, (76-77) p. 439.
gypsum of, (76-77) p. 442.
- Lièvre River, Que., examination of apatite deposits on, by H. G. Vennor, (73-74) pp. 144-145.
apatite rocks of, (76-77) p. 295.
apatite-bearing rocks at falls of, (76-77) p. 307.
- Lievrite, description with analysis, (1863) p. 465.
- Light, tradition as to origin of, among Haidas, (78-79) p. 151 B.
- Light-fire Lake, south-east branch Gatineau River, Que., canoe-route to St. Maurice River, (70-71) p. 286.

Lightning Creek, B.C., granite rocks at Barker-ville road-crossing, (71-72) p. 65.
mining operations and output of, (76-77) p. 111.

chief tributaries of, with gold workings on, (76-77) p. 138.

Lignite, of British Columbia, general note on, (76-77) p. 128.

abundant in Tertiary of British Columbia, (76-77) p. 94.

wood-cut showing effect of combustion of, in Bad Lands, Wood Mt., N.W.T., (79-80) facing p. 32 A.

note on, (79-80) p. 35 A.

composition and practical value of, from lignite Tertiary on International Boundary, N.W.T., (79-80) pp. 41-47 A.

of N.W.T., comparison of with foreign coals of same character, (80-82) pp. 21-22 B.

composition of, notes by J. W. Dawson on plants composing, (73-74) p. 85.

diagram illustrating relative composition with coals, etc., (80-82) facing p. 21 B

of Fort Union Group, nearest supply for Manitoba, (79-80) p. 14 A.

in Lower Cretaceous of Manitoba, possibility of, (79-80) p. 14 A.

two qualities of, east and west of 112th Meridian, (76-77) p. 471.

value of as fuel, (76-77) p. 129.

Lignite, analyses of:—

from N.W.T. and B.C., by B. J. Harrington, (76-77) pp. 465-473.

from four miles south of Pincher Creek, Alta., (78-79) p. 12 H.

from North-west Territories, table of, (76-77) facing p. 472.

from North Saskatchewan River, N.W.T., table of, (76-77) facing p. 472.

from North Pembina River, N.W.T., table of, (76-77) facing p. 472.

for full list see also under Coal, lignite, *Part II*, p. 24.

Lignite localities:—

Abitibi River, loose pieces found in, (77-78) p. 37 C.

Albany River, in marine clays and sands, (71-72) p. 112.

Athabasca River, near Fort Assiniboine, section including, (79-80) p. 126 B.

seam twelve miles below Fort McMurray, (82-84) p. 20 CC.

note on seams of, (82-84) p. 31 CC.

Bow and Belly River district, index map of outcrops of, accompanying report, (80-82) B.

British Columbia, occurrence of in, (76-77) pp. 144-145.

localities of occurrence in southern part, (77-78) p. 160 B.

localities on west coast recorded in 1874, (74-75) p. 83.

Brandon, Vermont, in Tertiary deposits of, (1863) p. 930.

Burnt Rapid, Athabasca River, thin seam near, (82-84) p. 13 CC.

Lignite localities—*Cont.*

Chin-oo-kun-dl Brook, Q.C.Is., in Tertiary rocks near, (78-79) p. 85 B.

Dirt Hills, N.W.T., beds exposed by landslides, thickness, quality, resin, selenite and fossil plants in, (73-74) pp. 77-78.

Fort Fraser, B.C., south of, (76-77) p. 82.

Fraser River, B.C., from near mouth of Quesnel River, (71-72) p. 66.

at Grand Rapids of Mattagami River, loose fragments, (75-76) p. 320.

Ko-has-gan-ko River, B.C., discovered on, (76-77) pp. 32, 76.

of Lake Superior, interbedded glacial wood and plants in clay of Goulais River and near Grand Sable, (1863) p. 905.

on Little Boggy Creek, Man., report of not confirmed, (74-75) p. 30.

on Ma-min River, Masset Inlet, Q.C.Is., (78-79) p. 88 B.

Martin Head, N.B., in Triassic rocks of, (78-79) p. 21 D.

on Missinabi River, note on, (75-76) p. 326.

seams exposed below the Long Portage, (77-78) pp. 4-5 C.

Mountain Creek, Wapiti River, B.C., fragments on bars of, (79-80) p. 124 B.

of North-west Territories, physical and chemical characters of, (82-84) pp. 5-6 M.

Parsnip River, B.C., large blocks on, (75-76) p. 71.

Pointe la Biche, Athabasca River, in beds near top of cliff at, (82-84) p. 12 CC.

Porcupine Creek, 49th parallel, 18-ft. seam, (79-80) p. 29 A.

of Quesnel and Peace River, note on beds, (75-76) p. 82.

Rocky Mt. House, N.W.T., 3-ft. seam, characters, age of deposits, (73-74) p. 48.

on Sanders River, Swan River, Man., debris in stream, (74-75) p. 59.

Short Creek, Souris River, seam on east branch, (79-80) p. 6 A.

of Souris River, seams at Sutherland's mine, (79-80) p. 5 A.

Souris coal-field, quantity per square mile, (79-80) p. 7 A.

of Souris Valley and westward, colour of ash, comparative table of analyses, deterioration at outcrop, (79-80) pp. 46-47 A.

of Southern Alberta, extent, quantity, quality, localities, etc., (82-84) pp. 127-138 C.

Swan River, Man., noted in exposures on, (74-75) p. 34.

Tai-uk Brook, B.C., probable occurrence of in, (76-77) p. 21.

Vermilion Cliff, Tulameen River, section of bed, (77-78) p. 132 B.

Wood Mt., Assa., general description of seams exposed, plant remains in, (73-74) p. 80.

of Ya-kan Point and Skon-un Point, Graham Island, Q.C.Is., (78-79) p. 86 B.

Lignite and Basaltic Series of British Columbia, united in Tertiary Formation, (76-77) p. 75.

Lignite ash from Roche Percée, Souris River, N.W.T., analysis of, (79-80) pp. 6-7 H.

- Lignite drift, where found in British Columbia, (76-77) p. 129.
in bed of Parsnip River, B.C., (75-76) p. 65.
found at Spit Point, Skidegate, Q.C.Is., (78-79) p. 85 B.
- Lignite-bearing formation of central British Columbia, Blackwater Bridge, Quesnel, (75-76) pp. 70, 255-260.
exposures on Fraser River, B.C., (75-76) p. 257.
at Quesnel, B.C., character, sections, plant remains, etc., (75-76) pp. 257-260.
section of insect and plant beds, with illustration, (75-76) p. 258.
age probably Miocene Tertiary, (75-76) p. 260.
- Lignite Tertiary Formation, eastern limit of, (79-80) p. 16 A.
of Great Valley and Pyramid Creek, International Boundary line, (79-80) pp. 23-28 A.
on the Missouri River, character of rocks and thickness of, (79-80) p. 14 A.
of Porcupine Creek, 49th parallel, (79-80) pp. 28-30 A.
sections of, on Saskatchewan River, above Rocky Mt. House, (73-74) p. 47.
note on westward continuation from Souris River, Assa., (79-80) p. 41 A.
sections on Souris River, with diagrams, (79-80) p. 16 A.
in vicinity of the 49th parallel from Souris River to 108th meridian, (79-80) pp. 12-49 A.
of Souris Valley, molluscs of, (79-80) p. 21 A.
exposures of on Traders road, near Wood Mountain, N.W.T., (79-80) pp. 23-30 A.
- Lignitic coal from Belly River, below Little Bow River, analysis of, (82-84) 26-27 M.
from Coal Banks, Belly River, analyses of, (82-84) p. 30 M.
from Highwood River, Alta., analyses of, (82-84) pp. 27-29 M.
from Indian Farm, Pincher Creek, analysis of, (82-84) p. 29 M.
for full list, see also, Coal, lignite, *Part II*, p. 24.
- Lignitic coals, of North-west Territories, physical and chemical characters of, (82-84) pp. 6-7 M.
- Lillooet, B.C., coal reported at, (76-77) p. 145.
character of Fraser River at, (77-78) p. 10 B.
old wagon road to Clinton, (77-78) p. 10 B.
to Hat Creek, B.C., diagrammatic section, (77-78) facing p. 174 B.
- Lillooet River, B.C., gold on, (76-77) p. 142.
- Lily Lake, Charlotte Co., N.B., border of granite area near, (70-71) p. 186.
- Lily Lake, St. John Co., N.B., Huronian rocks of, (70-71) p. 62.
- Lily Lake road, Long Reach, St. John River, N.B., pre-Silurian rocks on, (77-78) p. 25 DD.
- Lima duplicata*, Sowerby, notes on specimens from Sigutlat Lake, B.C., (76-77) p. 152.
- Lima sub-duplicata* Tawney, remarks on, (76-77) p. 152.
- Lime. George River works, N.S., (75-76) p. 416.
calc-spar for, vein of, near Tadousac, Que., (1863) p. 864.
stone for, general note on, localities cited, (1863) p. 803.
tufa for, deposits of, in Nottawasaga, Ont., and Artemesia, Ont., (1863) p. 804.
carbonate of, varieties and distribution in Ontario and Quebec, (1863) pp. 454-457.
sources of, (1863) p. 575.
fluoride of, occurrences of in Ontario and Quebec, localities cited, (1863) p. 463.
phosphate of, general note on occurrence of in Ontario and Quebec, localities for cited, (1863) p. 460.
note on deposits of in Ontario, (1863) p. 761.
sulphate of, note on occurrences of, in Ontario and Quebec, (1863) p. 459.
general note on deposits of, in Ontario, (1863) pp. 762-763.
hydraulic, note on properties and composition of, (1863) p. 805.
magnesian, general note on character of dolomites of Quebec Group, (1863) p. 803.
and magnesia, note on presence of, in mineral waters of Canada, (1863) pp. 551-552.
- Lime Island, Manitoulin group, Ont., rocks of Niagara age on, (66-69) E. p. 116, F. p. 131.
- Lime-kilns in Cape Breton Island, N.S., note on limestone used, (74-75) p. 263.
- Lime-rooms of the Syracuse solar salt-works, (66-69) E. p. 228, F. p. 252.
- Limehouse, Ont., thickness of Niagara Formation at, fossils found, (1863) p. 327.
bed of hydraulic cement-stone at, (1863) p. 806.
- Limestone, analyses of from :—
Fort Pelly, Sask., (76-77) p. 488.
for full list see also *Part II*, p. 29.
- Limestone, for building stones, varieties, notes on localities for, (1863) pp. 815-821.
for calcining, general note on Palaeozoic limestones of Canada, with localities noted, (1863) p. 803.
in Laurentian, general note on, (1863) p. 24.
for marble, examples of, localities, (1863) p. 822.
minerals of, note on, (1863) p. 591.
troughs of in gneiss area, (76-77) p. 271.
in the McNab trough, Ont., (76-77) p. 248.
in lowest division of Horton band in Ontario, (76-77) p. 263.
of Coal Measures, distribution, fossils, (74-75) p. 199.
of upper part of Upper Copper-bearing rocks of Lake Superior, general note on, (1863) p. 70.
- Limestones, discussed as to origin, organic, inorganic and oolitic, (1863) p. 630.

Limestone, notes on, observed or collected at the following localities:—

- Albany River, lower part of, (70-71) p. 111.
 Alberni road, Vancouver Island, B.C., examination of from, (72-73) p. 82.
 Albert mines, N.B., note on, (76-77) p. 381. in association with Albert Shales, N.B., (76-77) p. 374.
 Albert and Westmoreland Cos., N.B., two sets of in, (76-77) p. 380.
 Alberta, southern part, note on, (82-84) p. 138 C.
 Annaprior, Ont., (76-77) p. 246.
 Boston Bar, B.C., near 40-mile post, (77-78) p. 73 B.
 Bristol Tp., Que., (76-77) p. 247.
 British Columbia, localities of occurrence near roads and travelled routes in southern part, (77-78) pp. 162-164 B.
 Canterbury Station, Carleton Co., N.B., (82-84) p. 14 G.
 Cape Breton Island, N.S., note on supply for building purposes, making of lime, etc., (74-75) p. 263.
 Cape Breton and Richmond Cos., N.S., note on, (77-78) p. 29 F.
 Clarendon Tp., Que., (76-77) pp. 287, 291.
 Churchill River, of lower part of, (78-79) p. 18 C.
 Coulonge River, Que., (76-77) p. 282.
 English Settlement, N.B., containing dioritic material, (72-73) p. 194.
 Fitzroy, Ont., quarried for Government buildings at Ottawa, (76-77) p. 246.
 French, density of, in Cathedral at Montreal, (63-66) p. 284.
 Fraser River, near Hope, B.C., (77-78) p. 68 B.
 Fraser's farm, McLellan's Brook, Pictou, N.S., section of near, (66-69) E. p. 8, F. p. 9.
 Gatineau River, Que., (76-77) p. 294.
 in Goderich boring, Ont., (76-77) p. 228.
 Golden Lake, Bonnechere River, Ont., (76-77) pp. 258, 265.
 Green Lake, Ont., (76-77) p. 268.
 Great Beaver Lake, Ont., (76-77) p. 268.
 Guysborough Harbour, N.S., (79-80) p. 59 F.
 Hopetown, Ont., with labradorites, (76-77) p. 262.
 Kenogami River, Ont., anticlines in, (71-72) p. 113.
 Lake Mistassini, note by W. McOuat, (71-72) p. 119.
 Lanark Co., Ont., (76-77) pp. 252, 246, 262.
 L'Etang Harbour, N.B., (70-71) p. 87.
 Lesser Slave Lake, Atha., (79-80) p. 92 B.
 Little River, Richmond Co., N.S., (79-80) p. 71 F.
 McNab Tp., Ont., same as in Ramsay and Lanark Tps., (76-77) p. 252.
 Madawaska River, Ont., (76-77) pp. 251-252.
 Manitoulin Is., note on economic value of, (66-69) E. p. 116, F. p. 131.
 Mapleton, N.B., (76-77) p. 380.
 Maitagami River, notes on fossils from the Grand Rapids, (75-76) pp. 316-320.

Limestone, notes on—*Cont.*

- near Negro Brook, York Co., N.B., (82-84) p. 19 G.
 Nelson River, width of band, situation of, (78-79) p. 24 C.
 age of, (78-79) p. 26 C.
 Nerepis River, N.B., mouth of, Dipper Harbour and Kents Island, (70-71) p. 232.
 New Brunswick, northern part, note on, (79-80) p. 47 D.
 central part, localities, (72-73) p. 228.
 southern part, St. John Co., N.B., (70-71) p. 231.
 L'Etang Peninsula, Charlotte Co., (70-71) p. 232.
 for building purposes, at St. John, (70-71) p. 234.
 Ottawa Valley, great spread of, (76-77) p. 248.
 last exposure of on Ontario side, (76-77) p. 260.
 Pictou Co., N.S., of the Millstone Grit Formation, white, impure and nodular, (66-69) E. p. 61, F. p. 68.
 Peace River Pass, for lime making, (75-76) p. 82.
 Pirate Harbour, N.S., (79-80) p. 61 F.
 Point Vertical, Q.C.Is., thickness, attitude, (78-79) p. 61 B.
 Pontiac and Ottawa Cos., Que., distribution of in, (76-77) p. 292.
 Qualicum River and Horne Lake, B.C., value for building stone and ornamental purposes, (73-74) p. 101.
 Ramsay Tp., Ont., (76-77) pp. 246, 252.
 Ramsay, Lanark and Dalhousie Tps., Ont., great spread of, in, (76-77) p. 247.
 Renfrew Co., Ont., trough forms of, in, (76-77) p. 248.
 lowest division of, (76-77) p. 257.
 Ross Tp., Ont., thinning out at the westward, (76-77) p. 266.
 Sarah Island, B.C., (74-75) p. 76.
 Section Cove, Burnaby Island, Q.C.Is., (78-79) p. 55 B.
 South Thompson River, B.C., microscopical characters of, (77-78) p. 80 B.
 Thorne Tp., Que., with pyrrallolite, (76-77) p. 293.
 Tudor, Lanark and Horton Tps., Ont., identity of bands in, (76-77) p. 262.
 Thunder Bay, Nipigon Bay and Lake Nipigon, (66-69) E. p. 362, F. p. 401.
 Turtle Creek, Albert Co., N.B., (76-77) p. 381.
 York and Carleton Cos., N.B., (82-84) p. 29 G.
 Zymoetz River, B.C., (79-80) p. 102 B.
 Limestones, bituminous of, Dorchester, Westmoreland Co., N.B., (76-77) p. 383.
 of Lower Hillsborough, N.B., (76-77) p. 382.
 Limestone, brecciated, in Ross Tp., Ont., (76-77) p. 266.
 Limestone, Carboniferous, of St. Patrick Channel, N.S., (76-77) p. 438.
 in Cape Breton, (76-77) pp. 442-448.

- Limestone, crystalline, of Bristol Tp., Que., (76-77) p. 295.
distribution and characters of, in Cape Breton Co., N.S., (76-77) p. 426.
of Cedar Lake, Petawawa River, Ont., referred to, (76-77) p. 208.
of Christmas Brook, N.S., (76-77) p. 411.
in Eastern Ontario, western boundary or limit, (76-77) p. 276.
estimated thickness of, (76-77) p. 263.
of Georgian Bay, north shore, (76-77) pp. 202-208.
referred to, (76-77) pp. 193, 195, 197, 203, 205, 207.
at Grand Calumet, (76-77) pp. 281, 283.
in Grenville, Que., (76-77) p. 299.
of Hastings Co., Ont., horizon of, (66-69) E. p. 154, F. p. 171.
Lake Nipissing, north of, (76-77) p. 203.
of Lake Nipissing District, Ont., (76-77) pp. 206-207.
of Lorimer Lake, Ont., (76-77) p. 204.
in McDougall Tp., Ont., (76-77) p. 199.
on Manitowabin Lake, Ont., (76-77) p. 205.
in Mansfield Tp., Que., brecciated aspect of, (76-77) p. 284.
on Matchedash Bay, Ont., (76-77) p. 207.
in Ontario, lowest division of, (76-77) p. 264.
in Ottawa Co., Que., apatite-bearing beds of, (77-78) p. 5 G.
in Ottawa Valley, distribution of, (76-77) p. 281.
of Pleasant Valley, N.B., pre-Silurian, (76-77) p. 381.
in Renfrew Co., Ont., lowest division of, (76-77) p. 265.
of Rutherford Tp., Ont., (76-77) p. 209.
of Tudor, Marmora and Madoc Tps., Ont., (63-66) p. 94.
see also Limestone, Laurentian.
- Limestone, copper-bearing, in Quebec Group, note on, (1863) p. 711.
near Crow Point, N.S., (76-77) p. 438.
of Cape Breton Co., N.S., (76-77) p. 450.
of Spruce Brook, N.S., (76-77) p. 441.
in Upton Tp., Que., note on occurrences in Prince of Wales' and Bissonette's mines, (1863) p. 713.
- Limestone, Cretaceous, of Swan River and Thunder Hill, microscopic examination by G. M. Dawson, (74-75) pp. 66-67
- Limestone, dolomitic, from Selkirk, Man., examination and analysis of, (82-84) p. 1 MM.
with serpentine, Mansfield Tp., Que., (76-77) p. 284.
see also Dolomite.
- Limestone, Huronian, general description with analyses, (1863) p. 596.
of Rutherford Township, Ont., (76-77) p. 209.
Thessalon River, Ont., thickness and character, (1863) p. 56.
- Limestone, inorganic, note on, examples of, (1863) p. 631.
- Limestone, Laurentian, general note on, (1863) p. 591.
- Limestone, Laurentian—*Cont.*
note on use of, for making lime, building stone, etc., (1863) p. 804.
note on for building stone, (1863) p. 815.
additional evidence in correlation of, in Grenville region, Que., (1863) p. 838.
of Partridge Bay, Ont., (76-77) p. 198.
crystalline of Lake Talon, Ont., (76-77) p. 207.
of St. John Co., N.B., western part, (76-77) p. 335.
character and distribution in Cape Breton Island, N.S., (76-77) p. 426.
see also Limestone, crystalline.
- Limestone, Lower Silurian, of East Bay road, N.S., (76-77) p. 435.
- Limestone, magnesian, with serpentine, Mansfield Tp., Que., (76-77) p. 284.
- Limestone, pre-Carboniferous, of Water's quarry, Pictou coal-field, (66-69) E. p. 58, F. p. 64.
- Limestone, salmon-coloured, in Mansfield and Pontefract Tps., Que., (76-77) pp. 283, 286.
- Limestone, Silurian, bituminous examples from Collingwood, Ont., (1863) pp. 621-622.
- Limestone band, outcropping at Limestone Island, Cumshewa Inlet and Log Point, Skidegate Channel, (78-79) p. 62 B.
on Harriet Island, Skincuttle Inlet, (78-79) p. 52 B.
- Limestone bands, of the Laurentian, in Frontenac, Leeds and Lanark Cos., Ont., (72-73) p. 160.
of Frontenac, Leeds and Lanark Cos., Ont., (73-74) pp. 104-106.
of Storrington, Bedford and Loughboro' Tps., Ont., (72-73) p. 171.
- Limestone boulders, northern limit near Carlton, N.W.T., (75-76) p. 95.
absence of, on country near Dog Rump Creek, N.W.T., (73-74) p. 36.
- Limestone breccia on shore of West Bay, N.S., south of Little Harbour, (79-80) p. 23 F.
- Limestone Brook, Sydney Harbour, N.S., exposures on, (75-76) p. 405.
- Limestone conglomerate, of Lennox Ferry, N.S., (79-80) p. 56 F.
in the Quebec Group at Lévis, Que., plan and section of, (1863) Atlas.
of west coast of Newfoundland, (1863) p. 291.
- Limestone Creek, Sydney Harbour, N.S., section of Carboniferous limestone, (74-75) p. 172.
- Limestone drift, of Lake of the Woods, possible origin, (74-75) p. 43.
on Mattagami River, southern extent of, (75-76) p. 340.
westward extension of on plains of Saskatchewan River, (73-74) p. 57.
on Rainy River, Ont., (74-75) p. 43.
- Limestone and hornblende-rock group, Lanark Co., Ont., general characters, details, (74-75) pp. 140, 151.

- Limestone Islands, Georgian Bay, probably Trenton Group, (1863) p. 193
- Limestone Islands, near Louise Island, Q.C.Is., position of, (78-79) p. 27 B.
- illustration of strata on point north of, (78-79) p. 56 B.
- cherty limestone, conformable superposition on igneous rocks, (78-79) p. 61 B.
- Limestone Lake, north of Cumberland House, N.W.T., rock seen on, (79-80) p. 12 C.
- Limestone Mountains, Pine Pass, B.C., illustration showing, (79-80) facing p. 36 B.
- height of, (79-80) p. 37 B.
- Limestone Mountains north of Stuart Lake, B.C., (76-77) p. 55.
- Limestone quarries, of Arichat, Pirate Harbour and Lennox Ferry, N.S., (79-80) p. 124 F.
- of Pirate Harbour, Guysborough, N.S., note on Devonian rocks, (79-80) p. 42 F.
- Limestoue range, northern British Columbia, note on, (79-80) p. 25 B.
- Limestone Rapids, Nelson River, latitude of, variation of compass at, (78-79) p. 24 C.
- rock exposures and composition of banks at, (78-79) p. 25 C.
- notes on fossils from, (78-79) pp. 47-48 C.
- Limestone River, North Thompson River, B.C., width of, (71-72) p. 34.
- loose boulders of limestone on, (71-72) p. 65.
- Limestone series, of Atunatche valley, B.C., (79-80) p. 109 B.
- Limits of forest growth in Southern British Columbia, (82-84) p. 7 B.
- Limonite, composition of with analyses, origin of, localities of occurrence in Ontario and Quebec, (1863) pp. 510-512.
- character of, reference to analysis of, localities of occurrence, (1863) pp. 682-687
- minerals generally accompanying, (73-74) p. 231.
- occurring with hematite, localities for, (73-74) p. 221.
- with magnetite, produced by alteration, as at Bristol mine, (73-74) p. 203.
- analyses of, *for list see Part II.*, p. 29.
- occurrences in Eastern Canada, (73-74) pp. 229-230.
- in central New Brunswick, localities of occurrence, (82-84) p. 46 G.G.
- note on occurrence of in Ontario, north of Lake Erie, (1863) p. 683.
- in Basard Tp., Ont., note on deposits of, (1863) p. 683.
- of Champlain Co., Que., notes on deposits of, (1863) p. 685.
- of Green Island Seignior, Que., and vicinity, note on deposits of, (1863) p. 684.
- in St. Vallier, Que., note on deposits of, (1863) p. 684.
- in St. Vallier and Kamouraska Cos., Que., localities of occurrence, (66-69) E. p. 140, F. p. 156.
- note on formation of in Saguenay district, localities of occurrence, (82-84) pp. 16-18D.
- Limonite—*Cont.*
- of Stanbridge, Que., note on deposits of, (1863) p. 683.
- from Vaudreuil Seignior, Que., note on deposits, (1863) p. 683.
- Luna Island, Skidegate Inlet, Q.C.Is., coal measures on, (72-73) p. 62.
- conglomerates of, (78-79) p. 65 B.
- Lincoln Co., Ont.:—
- for general geology see Part I.*, p. 14.
- Lincoln Parish, Sunbury Co., N.B., sand-hills in kame-like forms, (82-84) p. 24 G.G.
- Lindhurst, Ont., note on blast-furnace erected at, (73-74) p. 246.
- Lindsay, Ont., Trenton fossils found at, (1863) p. 191.
- LINDSTROM, G., Swedish fossils obtained from, (70-71) p. 10.
- Lingan, N.S., section west to McPhees Ferry, (74-75) pp. 223-229.
- Lingan mine, N.S., new shaft for ventilation, (74-75) p. 230.
- character of coal, (72-73) pp. 248-249.
- surface and underground works, (72-73) p. 250.
- drainage, ventilation and output of, (72-73) p. 251.
- statistics, output, force of men employed, (72-73) p. 290.
- Lingan mine seam, description and analysis of coal from, (72-73) p. 290.
- section on coast, (74-75) p. 225.
- Lingan tract, Cape Breton Island, N.S., note on new works in collieries of, (74-75) pp. 229-230.
- Lingula* Sp., notes on specimens from twelve miles above Cañon of Peace River, (75-76) p. 103.
- in rocks of Indian Brook, N.S., (76-77) p. 430.
- Lower Silurian, from rocks of Mackintosh Brook, N.S., (76-77) p. 430.
- Lingula acuminata*, Conrad, wood-cuts of, showing variations in form, (1863) p. 102.
- Lingula Belli*, Billings, wood-cut of, (1863) p. 124.
- Lingula Briseis*, Billings, wood-cut of, (1863) p. 161.
- Lingula Canadensis*, Billings, wood-cut of, with surface enlarged, (1863) p. 210.
- Lingula Coburgensis*, Billings, wood-cut of, (1863) p. 161.
- Lingula curta*, Conrad, wood-cut of, (1863) pp. 161, 201.
- Lingula elongata*, Hall, wood-cut of, (1863) p. 161.
- Lingula Eva*, Billings, wood-cut of, (1863) p. 141.
- Lingula Huronensis*, Billings, wood-cut of, (1863) p. 124.
- Lingula Irene*, Billings, wood-cuts of species from Lévis and Montreal Island, (1863) p. 230.

- Lingula Kingstonensis*, Billings, wood-cut of, (1863) p. 141.
- Lingula Lyelli*, Billings, wood-cut of, (1863) p. 124.
- Lingula Mantelli*, Billings, wood-cut of, (1863) p. 113.
- Lingula obtusa*, Hall, wood-cut of, (1863) p. 161.
- Lingula ovalis*, Reeve, composition of shells of, result of analysis, (1863) p. 461.
- Lingula Perryi*, Billings, wood-cut of from Swanton, Vt., (1863) p. 274.
- Lingula Philomela*, Billings, wood-cut of, (1863) p. 161.
- Lingula Frogne*, Billings, wood-cut of, (1863) pp. 161, 201.
- Lingula quadrata*, Eichwald, wood-cut of, (1863) p. 161.
- Lingula Quebecensis*, Billings, wood-cuts of, (1863) p. 230.
- Lingula* beds on Peace River, above cañon, (75-76) p. 76.
- Lingula* flags, compared with rocks of gold-bearing area of Nova Scotia, (70-71) p. 271.
- Liniers Tp., Que., quartz veins in, reference to, (63-66) p. 70.
excavations on quartz veins, (63-66) p. 74.
assay of two samples of quartz, (63-66) p. 84.
- Linwood, Ont., section of superficial deposits, (1863) p. 900.
- Liorhynchus multicostum*, Hall, see *Rhynchonella Laura*, Billings, wood-cuts of, (1863) p. 384.
- Liriodendron tulipifera*, Linn, occurrence of in Canada, (79-80) p. 53 C.
- L'Islet, Que., quartzite ridge, anticline corresponding to that of St. Joseph, (1863) pp. 258-259.
to Elgin road, Que., distribution of Potsdam, (66-69) E. p. 123, F. p. 137.
- L'Islet Co., Que., geological map on, scale of, 8 m. = 1 in., (66-69) E. p. 119, F. p. 133.
for general geology see *Part I*, p. 9.
- L'Islet du Portage, Que., middle division of Potsdam Formation, (66-69) E. p. 129, F. p. 144.
peat bogs in, (66-69) E. p. 141, F. p. 157.
- L'Islet Forge, Que., analysis of bog-ore from, (73-74) p. 236.
reference to, (73-74) p. 248.
- List of birds, of Hudson Bay and Labrador, with notes by R. Bell, (82-84) pp. 54-56 DD.
collected between Norway House and York Factory, (78-79) pp. 67-70 C.
- List of coleoptera, from Churchill by J. B. Smith, (82-84) p. 62 DD.
by J. L. Le Conte, collected by R. Bell, Lake Superior district and in North-west Territories, 1881, (80-82) pp. 29-39 C.
collected in Manitoba in 1880 and north to Hudson Bay, (79-80) pp. 70-74 C.
- List of coleoptera—*Cont.*
collected by R. Bell on Nelson and Churchill rivers, (78-79) pp. 65-66 C.
collected on Peace River Expedition, (75-76) pp. 107-109.
by J. L. Le Conte, collected by R. Bell near Sault Ste. Marie, (80-82) pp. 29-31 C.
- List of crustacea from Port Burwell, by S. J. Smith, (82-84) pp. 57-58 DD.
- List of principal coal outcrops in Southern Alberta, (82-84) p. 130-131 C.
- List of copper localities of Eastern Townships, Que., (63-66) p. 43.
- List of elevations, on International Boundary Line west of Rocky Mountains, 49th parallel, (82-84) p. 9 B.
in region in vicinity of Bow and Belly rivers, (82-84) pp. 153-156 C.
- List of fossils, from Campbellton, N.B., Devonian fishes found at, (80-82) pp. 9-10 D.
of Flathead Valley, B.C., Carboniferous, by J. W. Salter, (82-84) pp. 41-42 B.
Gaspé Bay, plants, from sandstones of, (80-82) pp. 6-7 DD.
collected at Grand Grève and Gaspé, Que., (82-84) p. 24 E.
from Griffin Cove River, Gaspé, in lower part of Gaspé limestone series, (80-82) pp. 7-8 DD.
from Nanaimo, B.C., in clays of, (78-79) p. 98 B.
from Mabou coal mines, N.S., in Coal Measures, (82-84) p. 71 H.
from Manitoba, collected by R. Bell during 1880, (79-80) pp. 57-58 C.
from Masset Inlet, Q.C.Is., in drift clay of, (78-79) p. 43 B.
from Miners Brook, Gaspé, Que., Devonian, (82-84) p. 23 E.
from Missinaibi and Moose rivers, Ont., by J. F. Whiteaves, (77-78) pp. 5-6 C.
from Murray Bay, Que., Trenton Group, (1863) p. 163.
Peace River district, from Devonian boulders in drift, (79-80) p. 131 B.
from Peace River district, lower sandstone and shales of, (79-80) pp. 119-120 B.
from Percé, Que., vicinity of, (80-82) pp. 8-9 DD.
Point Lévis, Que., in various bands of conglomerate at, (1863) pp. 862-864.
from, Porter and Hanford brooks, N.B., Primordial beds, (77-78) pp. 30-31 DD.
from Quesnel and Blackwater, B.C., plant remains, notes by J. W. Dawson, (75-76) pp. 259-260.
Scaumenac River, Gaspé, from Silurian of, (82-84) p. 26 E.
from Skon-un Point, Graham Island, Q.C.Is., Tertiary, (78-79) p. 87 B.
from Smoky River, Atha., Upper shales (Pierre), (79-80) p. 124 B.
from Ste. Geneviève Island, Gulf of St. Lawrence, Calcareous Formation, (1863) p. 122.

- List of glacial striæ, observed in southern part of Cape Breton Island and Guysborough Co., N.S., (79-80) p. 114 F.
 on Churchill River, (78-79) p. 39 C.
 on East Main coast, from Sherricks Mt. to Cape Dufferin, (77-78) pp. 30-31 C.
 observed around Gods Lake, Keewatin, (78-79) p. 40 C.
 on Grass River, Nelson valley, (78-79) p. 39 C.
 on east shore of Lake Winnipeg, (77-78) p. 27 CC.
 on Little Churchill River, (78-79) p. 38 C.
 on Nelson River, (77-78) p. 28 CC, and (78-79) p. 39 C.
 on Sipi-wesk Lake, (78-79) p. 40 C.
 on boat-route to York Factory, (77-78) p. 27 CC.
- List of the graptolitiæ of the Quebec Group, (1863) p. 955.
- List of gold placer workings in Southern British Columbia in 1861, (82-84) p. 35 B.
- List of localities in Quebec where 'colours' of gold have been found in drift, (80-82) pp. 3-4 A.
- List of lepidoptera collected by R. Bell, Hudson Strait, 1884, (82-84) p. 61 DD.
 from Nelson and Churchill rivers, and west coast of Hudson Bay, (78-79) pp. 63-64 C.
 collected in North-west Territory by R. Bell in 1882, (82-84) pp. 36-37 CC.
- List and notes by R. Bell on mammals of Hudson Bay and Labrador (82-84) pp. 48-53 DD.
- List of marine invertebrata, in Leda clay, New Brunswick, (77-78) pp. 29-30 EE.
 collected by R. Bell at Ashe Inlet and Port Burwell, Hudson Strait, (82-84) pp. 58-60 DD.
- List of minerals, associated with hematite, (73-74) p. 219.
 associated with apatite-bearing rocks of Canada and Norway, (77-78) p. 13 G.
- List of fresh-water mollusca from Manitoba and Nelson River, (78-79) pp. 61-62 C.
- List of land, fresh-water and marine mollusca, collected by R. Bell in 1880, (79-80) pp. 75-76 C.
- List of plants, crossing the Arctic Circle, (78-79) pp. 53-60 C.
 from Athabasca and Peace rivers, (75-76) pp. 186-232
 from British Columbia, (75-76) pp. 186-232.
 from Northern British Columbia and Peace River country, collected by G. M. Dawson in 1879, (79-80) pp. 143-146 B.
 ferns from southern part of Cape Breton Island, (79-80) p. 115 F.
 shrubs and flowering plants in Lower Fraser valley, B.C., (75-76) pp. 115-116.
 from Hastings Co., Ont., by J. Macoun, (80-82) pp. 19-28 C.
 from Hudson Bay and along Churchill and Nelson rivers, (78-79) pp. 53-60 C.
 collected by G. M. Dawson in Queen Charlotte Islands, 1878, by J. Macoun, (78-79) pp. 219-222 B.
- List of plants—*Cont.*
 mosses and hepaticæ from vicinity of Quesnel, B.C., (75-76) p. 129.
 collected by R. Bell in 1884, Labrador Coast and Hudson Strait and Bay, by J. Macoun, (82-84) pp. 48-47 DD.
 from Magdalen Islands, collected by Jas. Richardson, (79-80) pp. 12-15 G.
 from Manitoulin Island, Ont., collected by J. Bell, (66-69) E. pp. 451-469 F. pp. 503-524.
 from southern part of basin of Moose River and Michipicoten River, Ont., collected by R. Bell, (80-82) pp. 17-28 C.
 found in southern part of basin of Moose River and not represented in Central Ontario, (80-82) pp. 17-18 C.
 collected on Mount Selwyn, B.C., by J. Macoun, (75-76) p. 148.
 collected by R. Bell in 1880 in valley of Nelson River, (79-80) pp. 59-69 C.
 from basin of Nelson River, that cross the Arctic Circle, (79-80) pp. 59-69 C.
 from valley of Nelson River, common to Gulf of St. Lawrence, giving range westward, (79-80) p. 68 C.
 common to shores of Lake Superior, giving their extent westward, (79-80) p. 67 C.
 which extend southwards to prairies, (79-80) p. 68 C.
 occurring in Ontario, (75-76) pp. 186-232.
 from Peace and Athabasca rivers, (75-76) pp. 186-232.
 from prairie region, N.W.T., (75-76) pp. 186-232.
 occurring in Quebec and Maritime Provinces, (75-76) pp. 186-232.
 from Rocky Mountains, (75-76) pp. 186-232.
 collected near summit of Popes Cradle, Stuart Lake, B.C., (75-76) p. 136.
 from Saline Springs on Peace River, above Smoky River, (75-76) p. 157.
 in flower in May on Vancouver Island (herbaceous) (75-76) p. 113.
 collected on Vancouver Island, (75-76) pp. 186-232.
 found at Yale, B.C., (75-76) pp. 118-119.
see also Catalogue of plants.
- List of shells found in raised beaches at Naden Harbour, B.C., (78-79) p. 95 B.
- List showing observed strikes of gneiss, on boat-route, Lake Winnipeg to Hudson Bay, (77-78) p. 9 CC.
 on East Main coast, Hudson Bay, (77-78) p. 9 C.
 on Nelson River, and notes on characters of, (77-78) pp. 16-17 CC.
 on Lake Winnipeg, (77-78) pp. 23-24 CC.
 in Gods and Island lakes district, Keewatin, (78-79) pp. 34-35 C.
- List of variations of magnetic needle on Churchill and Nelson rivers and Lake Winnipeg, (78-79) pp. 71-72 C.
- Lister's Mills, Magaguadavic River, N.B., Lower Carboniferous and intrusive rocks, (66-69) E. p. 179, F. p. 198.

- Lister's Mills, Magaguadavic River, N.B.—*Cont.*
large fragments of felsite in breccia, (72-73)
p. 186.
occurrence of fluor-spar at, (72-73) p. 229.
Lower Carboniferous and intrusive rocks on,
(66-69) E. p. 179, F. p. 198.
- Litchfield Tp., Que., deep deposit of sand in,
(76-77) pp. 282, 287.
plication of strata in, (76-77) p. 286
- Lithographic stone, beds in Trenton Formation
near Lake Couchiching, resembling Mar-
mora stone, (1863) p. 191-192.
of section at Marmora iron-works, Ont.,
thickness and characters, (1863) p. 182.
note on deposits at Marmora and in Brant,
Ont., (1863) p. 834.
of North Hastings, Ont., extent of work-
ings, (63-66) p. 107
in Onondaga Formation at Walkerton and
at the Ox-bow on Saugeen River, Ont.,
(1863) p. 351.
- Lithological description of porphyrite rocks from
British Columbia, (76-77) pp. 66-67.
- Lithortalis*, nov. gen., Scudder, description of
from Tertiary beds at Quesnel, B.C.,
(75-76) p. 276.
- Lithortalis picta*, Scudder, description of from
Tertiary beds of Quesnel, B.C., (75-76)
p. 277.
- Little Arm River, Qu'Appelle River, N.W.T.,
depth of valley, (73-74) p. 73.
- Little Bald Mountains, Nipisiguit River, N.B.,
gneisses and schists of, (79-80) p. 31 D.
- Little Beaver River, near Lac la Biche, N.W.T.,
character of valley, (79-80) p. 98 B.
- Little Boggy Creek, Man., no lignite found in
exposures on, (74-75) p. 30.
- Little Bow River, Alta., outcrop of seam near
Coal Banks, (80-82) p. 13 B.
general description of, (82-84) p. 27 C.
rocks of, general description, character of
valley, coal seams, (82-84) pp. 79-80 C.
list of coal outcrops, thickness of seams,
(82-84) p. 131 C.
- Little Bras d'Or, N.S., supposed fault along
valley of, (74-75) p. 242.
section of strata on east side, below bridge,
(74-75) pp. 237-238.
section of strata from bridge to Plant Point,
(74-75) p. 237-238.
- Little Bras d'Or mine, N.S., description of
workings, analysis of coal, (74-75) p. 241.
- Little Buffalo River, Athabasca, lignite bed and
gas spring at mouth of, (82-84) p. 13 CC.
- Little Cascapedia River, Bonaventure Co., Que.,
two sets of conglomerates, Devonian and
Carboniferous, (80-82) p. 8 D.
Devonian rocks of, (80-82) p. 12 D.
width of Devonian Series on, (82-84) p. 21 E.
the Silurian rocks on, (82-84) p. 28 E.
description of part of river above Forks,
(82-84) p. 11 F.
- Little Cape Oisean, Gaspé, Que., greenstone
dyke of, (1863) p. 402.
reference to description of dyke at, (80-82)
p. 31 DD.
- Little Chaudière Falls, Ottawa River, fault
crossing river at, (1863) p. 94.
effect of fault on Trenton trough near Ot-
tawa, (1863) p. 166.
- Little Churchill River, general physical and
geological description of, (78-79) p. 15 C.
illustration showing view up, (78-79) facing
p. 15 C.
elevation of mouth of, (78-79) p. 17 C.
list of glacial striae on, (78-79) p. 38 C.
- Little Cloridon Cove, Gaspé, syncline in rocks
at, (80-82) p. 20 DD.
- Little Deer, or Wa-wash-kaise Lake, Ont., lime-
stone bands on, (76-77) p. 203.
- Little Dipper Harbour, N.B., the Devonian
rocks of, (78-79) p. 12 D.
- Little Dog Lake, Ont., red clay forming soil,
(66-69) E. p. 355, F. p. 392.
- Little Falls, Madawaska River, Que., slates of
Gaspé Series, (1863) p. 425.
- Little Fort, North Thompson River, B.C., bend
in river, passes in mountains at, (71-72)
p. 26.
- Little Forks River, Cumberland Co., N.S., con-
glomerate and red shales, Lower Coal
Measures, gray sandstone of Upper Coal
Measures, (73-74) p. 167.
probable fault in Coal Measures near post-
road, (73-74) p. 168.
- Little Fox River, Gaspé, possible fault, sand-
stones with knobbed surface, (80-82)
p. 19 DD.
- Little Gaspé, Gaspé Bay, Que., limestone series
in contact with upper division at, (80-82)
p. 9 DD.
fossils of upper part of Devonian of Gaspé,
(80-82) pp. 13-14 DD.
occurrence of galena at, note on, (80-82)
p. 15 DD.
- Little Gaspé Cove, Que., junction of limestone
and sandstone series, (1863) p. 394.
lowest beds of Gaspé sandstone of, (1863)
p. 396.
mineral veins in limestone, (1863) p. 400.
description of dyke cutting Gaspé Series,
(1863) p. 402.
note on workings on galena deposit, (1863)
p. 691.
reference to description of dyke near, (80-82)
p. 31 DD.
- Little George Lake, near Garden River, Ont.,
rocks of, (76-77) p. 212.
- Little Glace Bay, N.S., analysis of cannel coal
from, (74-75) p. 221.
sections published by J. P. Leslie, (73-74)
p. 177.
- Little Glace Bay mines, N.S., extent of works,
thickness and quality of coal, Admiralty
trials of, (72-73) pp. 259-260.

- Little Glace Bay mines, N.B.—*Cont.*
 surface works, railway wharfs, etc., under-
 ground works, system and production,
 (72-73) pp. 261-263.
 statistics, output, force employed, (72-73)
 p. 290.
 section at Sterling pit, (74-75) pp. 215-217.
- Little Harbour, West Bay, Inverness Co., N.S.,
 crystalline limestone exposures near,
 (79-80) p. 23 F.
 Carboniferous rocks of, (79-80) p. 101 F.
- Little Hawk Lake, Ont., height of land from
 Pigeon Lake, Montreal River, portages,
 quartzites of, (75-76) p. 305.
- Little Island, Lake Temiscouata, Que., slates
 and sandstones, (1863) pp. 424-425.
- Little Judique Brook, N.S., Carboniferous
 limestone, sandstones and shales of, (82-
 84) p. 47 H.
- Little Judique Harbour, Inverness Co., N.S.,
 section of strata of Carboniferous Forma-
 tion on shore south from, (79-80) pp. 108-
 110 F.
 to Port Hood lighthouse, section along coast,
 (82-84) pp. 53-56 H.
- Little Knife Portage, to Knife Lake, Ont., chert
 rocks at, (72-73) p. 93.
- Little Lake, near St. John, Peace River, exam-
 ination of by A. R. C. Selwyn, (75-76)
 pp. 50-51.
- Little Lepreau, N.B., analysis of anthracite
 from, (76-77) p. 468.
- Little Lepreau River, N.B., Dadoxylon sand-
 stones near mouth of, (70-71) p. 177.
- Little Loran, N.S., felsites with calc-spar vein,
 (77-78) p. 7 F.
- Little Mabou, N.S., section of Coal Measures on
 coast at, (82-84) p. 59 H.
- Little Matane River, Que., Utica and Lévis
 fossiliferous rocks on coast at, (80-82)
 pp. 28-29 DD.
- Little Métis, Que., analysis of dolomite from,
 (76-77) p. 487.
- Little Métis River, Que., distribution of green
 sandstones of Sillery Series, (1863) p. 261.
 character of beds on coast near, (80-82)
 p. 30 DD.
- Little Michaud Cove, St. Lawrence River, Que-
 bec Group rocks at, (80-82) p. 27 DD.
- Little Michaud Bay, Que., Sillery sandstones at,
 shales with fossils, list of, (80-82) p. 26 DD.
- Little Missinaibi Lake, general description of,
 Laurentian rocks, (80-82) p. 8 C.
- Little Narrows of Bras d'Or, N.S., salt springs
 of, analysis of brine, (73-74) p. 181.
 pre-Cambrian rocks of vicinity of, (82-84)
 p. 7 H.
 Lower Carboniferous sandstone and con-
 glomerate, (82-84) p. 43 H.
 gypsum and marl exposed at, (82-84) p. 49 H.
- Little New River, N.B., succession of rocks on,
 (76-77) p. 338.
- Little Pabos River, Gaspé, Que., width of Car-
 boniferous belt, (80-82) p. 1 DD.
 the Silurian rocks of, (80-82) p. 15 DD.
- Little Pelican Lake, north of Cumberland
 House, Sask., length of, (79-80) p. 11 C.
- Little Perch River, Mistassini Lake, Que., brecc-
 iated felspathic rock, (71-72) p. 118.
 escarpment of gneiss, (71-72) p. 118.
 flat-lying limestones on, (71-72) p. 118.
- Little Pic River, Lake Superior, general de-
 scription, granites and Huronian schists,
 (70-71) p. 347.
- Little Pine Brook, Huron Tp., Ont., exposures
 of cherty beds near mouth of, (1863)
 p. 374.
- Little Pokiok River, N.B., gray conglomerate,
 calcareous slates, (74-75) p. 101.
- Little Qualicum River, Vancouver Island, B.C.,
 errors of former survey of coast near,
 traverse made during 1873, (73-74) p. 96.
 section of rocks on, (76-77) p. 166.
- Little Rapids mine, Portland East, Tp., Que.,
 note on workings at, (82-84) pp. 15-16 J.
see also Watt mine, (82-84) pp. 17-18 J.
- Little Red River, Peace River, width of, fish
 caught in, (75-76) p. 161.
- Little River, Grand Lake, N.B., Coal Measures
 on, (72-73) p. 204.
- Little River, Percé, Que., rocks exposed at,
 (1863) p. 441.
 rocks on Kempt road, trap rocks and fossil-
 iferous limestones, (1863) p. 449.
- Little River, near St. Lin, Que., beds of trap in
 Chazy, (1863) p. 133.
- Little River, Queens Co., N.B., red conglomer-
 ate of Lower Carboniferous at, (72-73)
 p. 190.
- Little River, Richmond Co., N.S., mining opera-
 tions at, section of Coal Measures, char-
 acter of the coal, explorations by Mr. Mc-
 Bean, prospects of mines, (79-80) pp. 118-
 120 F.
 Carboniferous rocks of, coal and limestone,
 (79-80) p. 71 F.
- Little River, St. John Harbour, N.B., Devonian
 rocks, extent of, east from, (70-71) p. 174.
 Upper Series of pre-Carboniferous (pale
 argillite series) (70-71) p. 199.
 sections of terraces in valley of St. John,
 (82-84) pp. 33 GG.
- Little River, Sunbury Co., N.S., beds exposed
 on, (72-73) p. 211.
- Little River Group, of Matthew, characters of,
 (70-71) p. 23.
 includes Dadoxylon sandstone and Cordaite
 shales, (70-71) pp. 168-169.
- Little Rivière du Loup, Que., upper limit of
 Trenton Formation on, (1863) p. 151.
- Little Rivière du Chêne, Que., red shales and
 sandstones at top of Hudson River Forma-
 tion on, fossils, (1863) p. 203.
 stratified clays of, (1863) p. 920.

- Little Rocky Ridge, Waterton River, Alta., (82-84) p. 65 C.
- Little Rolling Hills, Alta., character of Bow River Valley near, (82-84) p. 33 C.
- Little St. Francis River, St. John River, highest beds of quartzite band on, Silly Formation, (1863) p. 260.
- Little Salmon River, St. John Co., N.B., rocks of Coldbrook and Coastal Groups, (70-71) p. 99.
section of pre-Silurian, (77-78) p. 7 D.
- Little Saskatchewan River, Man., description by R. Bell, magnesian limestone at rapids, (74-75) p. 38.
- Little Schooner Lake, Miller Tp., Ont., red and gray gneiss, (72-73) p. 146.
- Little Shnswap Lake, B.C., rocks of fluor-spar, bismuthite and fluorite, (77-78) p. 101 B.
occurrence of bismuth on, (77-78) p. 162 B.
building stone of, (77-78) p. 165 B.
- Little Smoky River, Peace River, tributaries of, (79-80) p. 65 B.
description of at trail-crossing, source of stream, (79-80) p. 65 B.
Upper Sandstones exposed on, (79-80) p. 126 B.
- Little South-west Brook, North Aspy River, N.S., gneissic rocks of, (82-84) p. 19 H.
- Little South-west Miramichi River, N.B., Cambro-Silurian rocks of, (79-80) p. 29 D.
gneiss and schist of, (79-80) p. 32 D.
height of lakes and character of country at head of, granite, etc., (79-80) p. 32 D.
granite area on, (79-80) p. 34 D.
gold reported at Main's ledges, (79-80) p. 44 D.
- Little Stony Portage, Michipicoten River, Ont., rocks of, (80-82) p. 4 C.
- Little Touchwood Hills, N.W.T., character of timber, (73-74) p. 59.
trees, fresh-water lakes, soil, (73-74) p. 82.
- Little Valley, Gaspé, attitude of beds at, (80-82) p. 20 DD.
- Little Vermilion Creek, North Saskatchewan River, character of country, bushes, (73-74) p. 37.
- Little Whale River, view showing East Main coast near mouth of, (77-78) p. 11 C.
sections on north and south sides, (77-78) p. 13 C.
illustration showing Hudson's Bay Co.'s post and North Bluff, (77-78) facing p. 1 C.
illustration showing the hills south of mouth of, (77-78) p. 13 C.
note on occurrence of zinc-blende, (77-78) p. 21 C.
occurrence of axinite near mouth of, (77-78) p. 22 C.
occurrence of brick clays in valley of, (77-78) p. 23 C.
minerals brought from, lead mine at mouth of, (75-76) pp. 323-324.
silver ore from, assay of, (76-77) p. 480.
- Little White River, Mississagui River, Ont., Huronian limestone of, (1863) p. 62.
distribution of limestone band on, (1863) p. 841.
thickness of clay and sand on, (1863) p. 906.
- Little Yamachiche River, Que., exposure of Trenton rocks at falls on, (1863) p. 152.
- Lituiles Farnsworthi*, Billings, wood-cut of specimen from Phillipsburgh, Que., (1863) p. 277.
- Livandière Tp., Que., exposures of Potsdam in vicinity of, (66-69) E. p. 121, F. p. 136.
- LIVESEY, J., sections of Acadian iron-ore deposits furnished by, (72-73) p. 27.
explorations in Springhill coal-field, seams found on south side, section in Hill's pit, (73-74) p. 159.
- Livingstone Point, Lake Nipigon, Ont., length of, height of trap hills, (66-69) E. p. 343, F. p. 379.
- Lizard Island, Lake Superior, reference to rocks of, (1863) p. 82.
granite of coast near, (76-77) p. 218.
- LLOYD, THOS., borings by in Springhill coal-field, N.S., notice of, (73-74) p. 160.
- Lloyd Cove coal seam, N.S., section of, (72-73) p. 242.
section of, notes on further continuation westward, (74-75) p. 231-235.
splitting in two near Bras d'Or, (74-75) p. 235.
section of on Little Bras d'Or Lake, N.S., (74-75) p. 237.
work done on by General Mining Association, (74-75) p. 240.
in Boulardrie district, represented by Bonar seams, (74-75) p. 243.
- Lloyd Cove, Sydney Mines, N.S., calcareous sandstones with foot-prints, (74-75) p. 198.
section of, (74-75) p. 242.
- Lobster Bay, Que., labradorite rocks of, (66-69) E. p. 307, F. p. 339.
- Local glaciation in southern part of British Columbia, examples of, (77-78) pp. 138-139 B.
- Local glaciers on Queen Charlotte Islands, extent of, (78-79) p. 90 B.
- Local metamorphism in Palaeozoic rocks, examples of, (1863) pp. 634-637.
- Loch Ban, Inverness Co., N.S., sandstone, Lower Carboniferous, (82-84) p. 40 H.
limestones and gypsum of vicinity, (82-84) p. 42 H.
- Loch Cailean, Richmond Co., N.S., probable Devonian rocks in place near, (79-80) p. 35 F.
Carboniferous outlier at, (79-80) p. 62 F.
character of country about, (79-80) p. 112 F.
- Loch Lomond, St. John Co., N.B., Lower Coldbrook diorites, etc., St. John Group, (70-71) pp. 62-63.
exposures of St. John Group on Quaco road, (70-71) p. 138.

- Loch Lomond, St. John Co., N.B.—*Cont.*
 volcanic breccias and petrosilex of pre-Silurian rocks, (77-78) p. 4 DD.
 discordance between Primordial and Coldbrook rocks, (77-78) p. 28 DD.
- Loch Lomond, Cape Breton Island, N.S., Lower Silurian rocks of, (76-77) p. 424.
 Carboniferous rocks of, (76-77) p. 447.
 Millstone Grit on, (76-77) p. 448.
 hematite at, (76-77) p. 449.
 analysis of coal from, (76-77) p. 470.
 felsite, quartz-felsite and syenite of, (77-78) p. 4 F.
 small exposure of friable diorite, (77-78) p. 20 F.
 Devonian and Millstone Grit Formations, note on, (79-80) pp. 34-35 F.
 fish found in, (79-80) p. 115 F.
 analysis of hematite from near, (80-82) p. 7 H.
 summary of exploration by H. Fletcher, 1881, manganese mine, character of ore, (80-82) p. 8.
 analysis of pyrolusite from, (80-82) p. 12 H.
 note on hematite from, (82-84) p. 91 H.
 note on manganese ore of, (82-84) p. 92 H.
- Loch Lomond Map-sheet, N.S., issued 1884, scale 1 m. = 1 in.
- Loch Lomond road, Cape Breton Co., N.S., Laurentian rocks of, (76-77) pp. 422-423.
- Loch Lomond road, St. John, N.B., exposures of diorites, etc., (70-71) p. 61.
 height of raised beaches, (77-78) p. 31 EE.
- Loch Lomond valley, N.B., topographical situation, (70-71) p. 17.
- Lochaber Tp., Que., Potsdam sandstone crossing Ottawa River, (1863) p. 94.
 specimens of plumbago reported from, (1863) p. 794.
 graphite localities mined, mill on Blanche River, (63-66) pp. 22-23.
 opening for graphite examined, (73-74) p. 143.
 plumbago in, (76-77) p. 318.
- Lochan Fad, Cape Breton Island, N.S., Laurentian rocks at, (76-77) p. 418.
- Lochiel Tp., Ont., ridge of Calciferous on anticline, (1863) p. 116.
 distribution of Chazy Formation in, (1863) p. 126.
 the Trenton Group exposed in, (1863) pp. 171-172.
 phosphatic nodules in Chazy Formation, (1863) p. 462.
- Lockside, Richmond Co., N.S., Carboniferous rocks of, do not extend as far as shown on map of 1879, note, (79-80) p. 34 F.
- Lockes Brook, near New Harbour, Charlotte Co., N.B., copper-ore of, (70-71) p. 93.
- Lockport, N.Y., thickness of Niagara Formation, (1863) p. 321.
- Lockwood, W. P., report of alluvial workings on Gilbert River, Que., (70-71) pp. 275-276.
- Lodestone, reference to in magnetic ores of Madoc, (1863) p. 509.
- Loftusia Columbiana*, Dawson, from limestone of Marble Cañon, E.C., description of, (77-78) p. 88 B.
- Log Point, Skidegate Channel, Q.C.Is., description of channel at, (78-79) p. 31 B.
 outcrop of limestone band seen at west arm Cumshewa Inlet, (78-79) p. 62 B.
- LOGAN, W. E., sketch of work of officers and explorers of Survey from 1843-1862, (1863) pp. iii-xvi.
 sketch of explorations of, previous to 1863, (1863) pp. v-vi.
 Report of Progress of Geological Survey of Canada, from commencement to 1863, (1863) pp. 1-967.
 surveys by in 1844-1845 in Gaspé, Que., (1863) p. 10 Atlas.
 surveys made in 1858 on River Rouge, Que., (1863) p. 11 Atlas.
 survey of Ottawa River made in 1845, (1863) p. 11 Atlas.
 summary report for 1866, (63-66) pp. 3-27.
 detailed reports transmitted through A. R. C. Selwyn, note on, (66-69) E. p. 3, F. p. 3.
 Pictou coal-field east of East River, N.S., report on, (66-69) E. pp. 4-53, F. pp. 4-59.
 on mineral veins, of Thunder Bay District, Ont., (66-69) E. p. 357, F. p. 395.
 postscript by, to R. Bell's report on Nipigon and Thunder Bay, E. pp. 471-475, F. pp. 525-530.
 summary report for work of 1866, 1867 and 1868, (68-69) pp. 3-9 Summ.
 work in Pictou coal-field, 1868, (68-69) p. 8 Summ.
 acknowledgment to, for gratuitous services to Survey, (73-74) p. 1.
 date of death, amount expended on Survey, by, (75-76) p. 7.
 obituary notice by B. J. Harrington, (75-76) pp. 8-21.
 extracts from paper by, on Laurentian rocks, (76-77) p. 270.
 reference to later work on Quebec Group, (77-78) p. 2 A.
 reproduction of sketch by, pillar of trap at Bon Ami Cape, Bay of Chaleurs, (80-82) facing p. 19 D.
- Logan Estate, books and instruments purchased from, (80-82) p. 11.
- Logan farm, Montreal, superficial deposits of, fossils of, (1863) p. 920.
 list of post-Tertiary fossils from, (1863) pp. 926-928.
- Logan Inlet, Laskeek Bay, Q.C.Is., description of, (78-79) p. 25 B.
 rocks probably newer than Triassic, (78-79) p. 46 B.
 Triassic argillites and newer volcanics of north shore, (78-79) p. 59 B.
- Logan Tp., Ont., clays and surface deposits of, (1863) p. 900.
- Loganite, analysis of, (63-66) p. 232.
 general description of localities yielding, with analyses of, (1863) pp. 489-492.

- Loganite—*Cont.*
evidence of, being a sedimentary mineral, (63-66) p. 209.
T. S. Hunt on origin of in Eozoon rock, (63-66) pp. 232-233.
replacing apatite in vein, (63-66) p. 224.
- Lombardy, Leeds Co., Ont., porosity of sandstone from near, (82-84) p. 2 MM.
- Lonchæa senescens*, Scudder, description of, from Tertiary of Quesnel, B.C., (75-76) p. 277.
- Lonchæidæ* of Tertiary beds of Quesnel, B.C., (75-76) p. 277.
- London, Ont., height of G.T.R. grade at station, (1863) p. 15.
analysis of clay from, (1863) p. 641.
clays for white bricks found at, (1863) p. 898.
section of the superficial deposits at, (1863) p. 903.
note on fresh-water deposits in valley of Thames River, (1863) p. 913.
wells in the city, (63-66) p. 249.
note on borings in, (66-69) E. p. 217, F. p. 240.
- London Settlement, Wickham, Queens Co., N.B., rocks of supposed Huronian age, (71-72) p. 73.
- Londonderry, N.S., Acadian iron-ore deposits, report by A. R. C. Selwyn on, (72-73) pp. 19-27.
specular magnetic ore of, (73-74) p. 206.
note on occurrence of hematite in Silurian at, specular and micaceous ores, (73-74) p. 215.
analysis of ankerite; from, (73-74) p. 220.
analysis of specular ore from Cooks Brook, (73-74) p. 224.
analysis of hematite from Peter Totten lot, Acadia mines, (73-74) p. 224.
note on limonite in vein at, (73-74) p. 229.
analyses of limonite from, (73-74) pp. 231-233.
Catalan forge, blast furnace, description of, amount of charge, production of iron, charcoal used, (73-74) p. 253.
iron-pyrites from, analysis for nickel and cobalt, (74-75) p. 14.
analysis of pyrite from, (74-75) p. 316.
- Londonderry furnace, N.S., force employed, cost of iron, wrought-iron forge, casting-house and steel works, production since 1862, (73-74) p. 254.
- Londonderry ores of Nova Scotia, note by J. L. Hayes on quality of, (72-73) p. 27.
- Lonely Island, Lake Huron, Hudson River Formation exposed on, (1863) p. 217.
- Lonely Lake, English River, Ont., limestone with fossils reported on, (66-69) E. p. 349, F. p. 386.
various names of, (72-73) p. 102.
length, gneiss rocks of western part, (72-73) p. 103.
summary of exploration by R. Bell, 1883, (82-84) pp. 5-6.
see also Lac Seul.
- Lonely River, Quinze Lake, Ottawa River, rapids on, Laurentian rocks of, (72-73) p. 121.
- Lonely Valley, Milk River, Alta., note on, (82-84) p. 14 C.
- Long Arm, Skidegate Inlet, Q.C.Is., mountains cut by, (78-79) p. 30 B.
area occupied by lower shales and sandstones, (78-79) p. 69 B.
- Long Beach coal-seam, Cow Bay, N.S., section of, (74-75) pp. 207-208.
- Long Cove, Gaspé, Que., red sandstones of upper part of series, (1863) p. 397.
- Long Inlet, Georgian Bay, strike of gneiss, general description of, (76-77) pp. 198, 205.
- Long Island Barasois, St. Andrew Channel, N.S., syenite at mill, (75-76) p. 376.
Carboniferous conglomerates of, (75-76) p. 397.
beds exposed on, in consecutive order, (75-76) p. 391.
- Long Island, Hudson Bay, near Great Whale River, note on specimens of anthracite (anthroxolite) from, (75-76) p. 325.
analysis of, (75-76) p. 423.
diagrammatic section of rocks of south-west end, (77-78) p. 12 C.
note on copper-pyrites from, (77-78) p. 20 C.
note on ferruginous beds of, (77-78) p. 21 C.
note on quality and probable occurrence of lignite on, (77-78) p. 24 C.
assay of quartz from, (78-79) p. 20 H.
- Long Island, Kennebecasis Bay, N.B., rocks of St. John Group, (70-71) p. 141.
- Long Island ferry, St. Andrew Channel, N.S., red syenite, (75-76) p. 375.
Lower Silurian rocks of, (75-76) p. 390.
- Long Lake, Algoma, route from McKays Lake to, (70-71) p. 332.
height above Lake Superior, (70-71) p. 335.
general description of, (70-71) pp. 335-338.
size, tributaries, shores, narrows of, (70-71) p. 336.
rocks exposed on Beatty's line near, (70-71) p. 337.
cliffs of clayey sand, (70-71) p. 350.
- Long Lake, Okanagan, B.C., narrow spit, the "Railway," area, etc., (77-78) p. 56 B.
- Long Lake to Elliott's mill, Nerepis River, N.B., pre-Silurian rocks, (77-78) p. 27 DD.
- Long Lake, North Burgess Tp., Ont., crystalline limestone band on, (72-73) p. 167.
- Long Lake, or Last Mountain Lake, N.W.T., character of outlet, (73-74) p. 72.
- Long Lake House, Algoma, Ont., note on country north of, (70-71) pp. 341-343.
calcareous clays of, (70-71) p. 350.
- Long Lake River, near Fort McLeod, B.C., width at crossing, trout fishing on, fall on, gravel ridges in valley at, (75-76) p. 34
two varieties of trout found in, (75-76) p. 35
description of falls, (75-76) p. 140.
Palæozoic rocks of, (79-80) p. 108 B.

- Long Point, Anticosti, Que., sections of Anticosti Group from Junction Cliff, (1863) pp. 298-300.
to Jupiter River, Anticosti, section of rocks along coast, with fossils, (1863) pp. 300-302.
- Long Point, Inverness Co., N.S., Carboniferous rocks of, (79-80) p. 103 F.
- Long Point, Lake Erie, Ont., note on formation of, (1863) p. 915.
- Long Point, St. Lawrence River, Que., fossiliferous limestones and shales, (80-82) p. 28 DD.
rocks of Sillery division, (1863) p. 262.
- Long Pond, Inverness Co., N.S., exposure of, felsites north of, (79-80) p. 11 F.
- Long Portage, Abitibi River, Ont., description of rocks at, (77-78) p. 33 C.
- Long Portage, Michipicoten River, Ont., gneisses and schists of, (75-76) p. 336.
- Long Rapids, Nipigon River, Ont., rocks at, (66-69) E. p. 339, F. p. 374.
- Long Reach, St. John River, N.B., topography of basin, (70-71) p. 17.
rocks of Coastal Group on north shore, (70-71) p. 114.
Carboniferous rocks on, (70-71) p. 115.
note on the Primordial rocks exposed on, (77-78) pp. 32-33 DD.
notes on Silurian rocks of Kingston Peninsula, fossils, dip of beds, structure, (77-78) pp. 1-2 E.
- Longs Creek, Washademoak Lake, N.B., contact of Carboniferous and metamorphic rocks near Barker's house, (66-69) E. p. 181, F. p. 200.
thickness of coal seam at, (78-79) p. 20 D.
rocks resembling Upper Silurian, (75-76) p. 365.
coal-seams at mouth of, (72-73) p. 214.
- Long Sault, Ottawa River, celestine or sulphate of strontia found in limestone, (1863) p. 459.
moraine crossing river at, (1863) p. 895.
- Longs Settlement, Kings Co., N.B., petrosilex covered by amygdaloid, (77-78) p. 14 DD.
- Long Stretch bridge, near Askilton, N.S., Carboniferous rocks of, plaster pits, etc., (79-80) p. 96 F.
- Long-wall working in coal mines, advantages of, (72-73) p. 289.
- Longitude, as established by Bayfield, of Pictou light and Betty Point, (66-69) E. p. 86, F. p. 96.
observations taken by G. M. Dawson at Dunvegan, on the Peace River and at Driftpile camp, Athabasca River, (79-80) p. 163 B.
of places determined by E. D. Ashe, list of, (1863) p. 9 Atlas.
of places adopted on map of Q.C.Is., notes by Messrs. Bovey and Dawson, (78-79) pp. 233-239 B.
- Longueuil, Que., Utica shale exposed at, (1863) p. 207.
- Longueuil Seignory, Que., deposit of peat in, referred to, (1863) p. 782.
- Loon Lake, Anglesea Tp., Ont., diorites east from, (72-73) p. 153.
- Loon Lake, Chilanco River, B.C., character of banks, (75-76) p. 238.
- Lop-stick Portage, Abitibi River, rocks above, (77-78) p. 36 C.
- Lorraine shales, general description of in Canada, (1863) pp. 198-224.
see also Hudson River Formation.
- Loran, N.S., Laurentian rocks at, (76-77) p. 425.
iron-ore at, (76-77) p. 449.
felsites of coast near, (77-78) pp. 7-8 F.
note on iron-ore deposits at, (77-78) p. 28 F.
- Lord Lorne trail, north of Bow River, description of country, (82-84) pp. 34-35 C.
- Lords Cove, Deer Island, Charlotte Co., N.B., rocks of Kingston Group, (70-71) p. 128.
note on magnetite of, (74-75) p. 86.
note on iron-ore deposit at, (78-79) p. 24 D.
- L'Original, Ont., beds of the Chazy Formation exposed at, (1863) p. 130.
note on gray limestone used for marble, (1863) p. 827.
six lines of boulders cross the river near, (1863) p. 896.
- L'Original Seignory, Ont., breadth of country covered by clay, (1863) p. 916.
- Lorimer Lake, Ont., crystalline limestone exposures on, (76-77) pp. 204-205.
- LORNE, MARQUIS OF, donations to Museum, (82-84) p. 18.
- Lorway and Emery mining areas, N.S., coal seams, quality of coal, (72-73) pp. 267-268.
- Lorway mine, N.S., plant, machinery, ventilation and workings, (72-73) p. 268.
statistics, wages, machinery, etc., (72-73) p. 290.
- Lorway seam, Lorway and Emery area, N.S., its thickness and extent, (72-73) p. 268.
- Lorway mines, N.S., description and analysis of coal from, (72-73) p. 290.
- Lorway west pit, section in, (74-75) p. 222.
section near Bridgeport Basin, N.S., (74-75) p. 220.
note on irregularities in and former measurements of, (74-75) p. 222.
section on Glace Bay, N.S., (74-75) p. 215.
- Lorway west pit, section of strata, (74-75) p. 222.
- Loss of gold in William's mine, Madoc, Ont., with old mill, (71-72) p. 133.
- Lost Creek, B.C., gold workings on, (76-77) p. 140.
- Lost Portage, Kaministiquia River, Ont., green schists, (72-73) p. 91.
- Lot, department of, France, analysis of apatite from, (77-78) p. 12 H.

- Lotbinière Co., Que.:—
for general geology see *Part I*, p. 9.
- Loucks Mills, Castor River, Ont., section of Trenton limestone at, (1863) p. 174.
- Loughborough Lake, Ont., the Potsdam sandstone outcrop in vicinity of, (1863) p. 97 the basal beds of the Trenton Group exposed on, at Knapps Point, (1863) p. 179. the Birdseye and Black River Formations on, (1863) p. 183. marl deposit in, (1863) p. 764.
- Loughborough Tp., Ont., crystalline limestone in, referred to, (1863) p. 46. the Potsdam Formation, exposures of in, (1863) pp. 99-100. distribution of lower part of Trenton Group in, (1863) p. 179. higher escarpment of Trenton Group, fossils of, (1863) p. 185. analysis of Laurentian dolomite from, (1863) p. 593. plumbago in, (1863) p. 794. magnesian limestones in, (1863) p. 806. graphite of Gold Lake, not in beds, (63-66) p. 219. note on Frontenac lead-mine, (66-69) E. p. 164, F. p. 182. reference to rocks of, (72-73) pp. 162-163, 170-174. phosphate basin in, (72-73) pp. 170-174. synclines in phosphate rocks of, (73-74) pp. 107-109. Eozoön in rocks of synclines, (73-74) p. 109. faults running east and west, (73-74) p. 109. analysis of apatite from lot 10, R. X., (77-78) pp. 6, 10 H.
- Louis Creek, North Thompson River, B.C., felsitic argillite, etc., (77-78) p. 83 B. gold on, (77-78) p. 155 B.
- Louisa Lake, near Aylmer Lake, Que., intrusive granite near, (1863) p. 430.
- Louisburg, N.S., felsites of vicinity, varieties observed, note on pre-Silurian age of, (75-76) pp. 379-381. building stone used in fortifications of, (77-78) p. 32 F.
- Louisburg Lighthouse, N.S., felsites of vicinity, (75-76) p. 380.
- Louisburg Harbour, N.S., felsites of, (77-78) p. 8 F. reddish conglomerate of, (77-78) p. 23 F.
- Louisburg Railway, N.S., exposures of felsites from Catalogne Lake to Louisburg, (77-78) p. 8 F.
- Louisburg Map-sheet, part of Cape Breton Co., N.S., accompanying, (77-78) part F.
- LOUISE, H. R. H. PRINCESS, donations to Museum, (82-84) p. 18.
- Louise Island, Q.C.Is., description of, (78-79) p. 27 B. description of east coast of, (78-79) p. 27 B. illustration showing limestone and volcanic material north of Limestone Islands, (78-79) p. 56 B.
- Louison River Bay of Chaleurs, width of trap area on, (80-82) p. 19 D.
- LOUNT, G. F., assistant to R. Bell, 1871, surveys by, (71-72) p. 102. traverses made by, in 1872 on Black Sturgeon River, (72-73) pp. 97-98. work by, north of Lake Huron, (76-77) pp. 193, 210.
- Lount Tp., Ont., crystalline limestone in, (76-77) p. 206.
- Low, A. P., work by as assistant to R. W. Ells, 1882, (80-82) p. 20. date of appointment on staff, (80-82) p. 28. summary of surveys and examinations made in Gaspé Peninsula, 1883, Shickshock Mts., (82-84) pp. 10-12. surveys made during 1883, (82-84) p. 5 E. report on geology of interior of Gaspé, and Shickshock Mts., topographical and geological features, (82-84) pp. 5-21 F. summary of surveys and explorations made in Gaspé, 1883, (82-84) pp. 5-12 F. view of Notre Dame Mts., Gaspé, sketched by, to accompany, (82-84) Part F.
- Low Island, Laskeek Bay, Q.C.Is., position of, (78-79) p. 27 B.
- Low Point, New Craignish, Inverness Co., N.S., Carboniferous rocks of, (79-80) p. 102 F.
- Low Point, Sydney Harbour, N.S., calcareo-bituminous shales holding *Cythere*, (74-75) p. 200. section on coast east to Lingan, (74-75) pp. 223-226. section on coast west to McPhee's ferry, (74-75) pp. 227-229. section on shores at, note on, (74-75) p. 226. to Lingan, N.S., diagrammatic section of measures, (74-75) facing p. 266.
- Low tide at Fort Churchill, illustration showing, (78-79) facing p. 16 C.
- LOWE, Jas., sketch of work performed previous to 1863, (1863) p. v. work by in Buckingham Tp., Que., (63-66) p. 20. note by A. R. C. Selwyn, on work of, during 1869 in Ramsay Tp., Que., (69-70) p. 7 Summ. surveys in 1870 in Argenteuil, Ottawa and Terrebonne Cos., Que., (70-71) p. 7. work in 1871 in Ottawa Co., Que., (71-72) p. 14.
- Lower black shales of Quebec Group, note on occurrence of in Eastern Townships, (1863) p. 238. exposures along Danville and Sutton anticlines, (1863) p. 240.
- Lower Blackwater Cañon, B.C., illustration showing rocks at entrance to, (75-76) facing p. 249.
- Lower Cache Creek Group, exposures of rocks in vicinity of Soda Creek, B.C., (75-76) pp. 247-248.

Lower Cache Creek Group—Cont.

geological description of exposures of in Blackwater River district, B.C., (75-76) pp. 248-250

probability of correlation with several formations by additional observations, (75-76) p. 250.

relations of, (76-77) p. 89.

exposures of, between Fraser River and Coast Range, (76-77) pp. 55-58.

Lower Canada mine, in Ascot Tp., Que., copper, description of ore, (63-66) p. 40.

Lower Carboniferous areas at Cumberland Creek and Newcastle River, N.B., (72-73) p. 195.

Lower Carboniferous belt, from Bathurst to St. John River, interrupted on Dungarvon River, (80-82) p. 9 D.

Lower Carboniferous Formation, not affected by faults shown in older rocks in New Brunswick, (70-71) p. 180.

fossil plants of, in shales on Piskahegan River, N.B., (72-73) p. 187.

lower beds and basal conglomerates of, in New Brunswick, (72-73) p. 183.

red conglomerates, with distribution of in New Brunswick, (72-73) p. 182.

estimated thickness of, in Cape Breton Island, N.S., (73-74) p. 173.

Lower Carboniferous Formation of the following localities:—

Albert and Westmoreland Cos., N.B., by L. W. Bailey and R. W. Ells, with map, (76-77) pp. 351-401.

extent, (76-77) p. 354.

disturbances in, (76-77) pp. 354, 374.

order of succession in, (76-77) p. 355.

Bonaventure Co., Que., note on rocks of, (80-82) pp. 6-9 D.

Cape Breton Island, N.S., northern part, (82-84) pp. 37-53 H.

Gaspé Peninsula, Bonaventure Formation, (80-82) pp. 1-3 DD.

Henderson Settlement, N.B., conglomerate derived from older rocks, (72-73) p. 193.

Queens, Sunbury and York Cos., N.B., (72-73) pp. 182-195.

eastern New Brunswick. Bonaventure Formation, (79-80) pp. 7-10 D.

southern New Brunswick, distribution, (70-71) p. 205.

succession in Sussex, Kings Co., (70-71) p. 205.

succession in Albert Co., (70-71) p. 205.

details of exposures, (70-71) pp. 206-213.

coastal areas and interior basins, (70-71) p. 206.

general dip, unconformity at top, (72-73) p. 189.

general distribution, subdivisions, notes on Albert shales, horizon of, (78-79) pp. 15-19 D.

economic minerals of, (78-79) pp. 16-18D.

general note on fossil remains found, (78-79) p. 18 D.

Point Edward, Sydney Harbour, N.S., fossiliferous shales, (73-74) p. 172.

Lower Carboniferous Formation—Cont.

Sydney Harbour, N.S., total thickness of rocks, (74-75) p. 174.

Magdalen Islands, Que., (79-80) pp. 2-8 G.

Washademoak Lake, N.B., (72-73) pp. 191-192.

Wickham Parish, N.B., (72-73) p. 191.

Lower Carboniferous fossils, from Butternut Ridge, N.B., (70-71) p. 208.

from Owls Head, N.B., (70-71) p. 211.

plants, from Gardners Creek, N.B., (70-71) p. 210.

Lower Carr seam, east of Low Point, Sydney Harbour, N.S., section of, (74-75) p. 224.

Lower Caverhill, Queensbury Parish, N.B., sandstones of Lower Silurian, (82-84) p. 20 G.

Lower Clones Settlement, N.B., jasper and chalcidony in rocks at, (72-73) p. 229.

Lower Coldbrook Group of the Huronian of New Brunswick, divisions of beds, (70-71) p. 58.

Lower conglomerate, coal-bearing rocks of Comox basin, B.C., (72-73) pp. 46-47.

Lower copper-bearing division of Quebec Group, (63-66) p. 32.

Lower Cretaceous, contains unimportant deposits of lignite in Nebraska and on Missouri River, (79-80) p. 13 A.

Lower dark shales, Pakowki Coulee, Alta., position of, thickness, (82-84) pp. 117-118C.

Lower Forks, Pine River, B.C., latitude of, (79-80) p. 43 B.

to Dunvegan, description of trail and country, (79-80) pp. 46-52 B.

Lower Fort Garry, Man., fossils collected by A. R. C. Selwyn, (72-73) p. 18.

notes on fossils from near, (78-79) pp. 45-47C.

list of fossils collected in 1880 from near, (79-80) pp. 57-58 C.

list of coleoptera collected by R. Bell, (79-80) pp. 72-73 C.

Lower Fraser valley, description by Dr. Lyall, quoted, (75-76) p. 116.

Lower Helderberg conglomerate, of vicinity of Montreal, chemical and mineral peculiarities, (1863) p. 626.

Lower Helderberg fossils, wood-cuts of sixteen species, (1863) pp. 957-958.

from Ruisseau de la Grand Carrière, Gaspé, list of, (82-84) p. 30 E.

Lower Helderberg Group, divisions of found in New York, description and characters of, (1863) pp. 353-355.

description of lower member found in Ontario, (1863) p. 354-358.

description of Gaspé limestones, (1863) pp. 391-394.

thickness, etc., (63-66) p. 237.

hematite of fossiliferous rocks of Pictou Co., N.S., (73-74) p. 217.

phosphorous in hematites of, in Pictou Co., N.S., (73-74) p. 224.

- Lower Laurentian System of Ottawa Co., correlated with rocks of Burgess Tp., Ont., (73-74) p. 139.
conclusions of H. G. Vennor on, (76-77) p. 301.
in Olden, Oso, South Sherbrooke and Bathurst Tps., Ont., (72-73) pp. 158-162.
- Lower Middle River, Victoria Co., N.S., character and distribution of pre-Cambrian felsites, (82-84) pp. 8-9 H.
- Lower Nechacco River, B.C., general description, (76-77) p. 52.
- Lower Quaco road, N.B., exposures of pre-Silurian on, schistose group, (77-78) p. 21 DD.
- Lower Queensbury, N.B., kames near St. John River, (82-84) p. 23 GG.
- Lower sandstones, Div. E, Skidegate Inlet, Cretaceous, fossils of, exposures near Alliford Bay, (78-79) p. 70 B.
- Lower Sandstones and shales of Cretaceous of Peace and Pine rivers, exposures of on Pine River and Peace River, (79-80) pp. 116-122 B.
of Peace River, horizon of, fresh-water molluscs, (79-80) p. 122 B.
- Lower Savage Islands, Hudson Strait, rocks of, (82-84) p. 21 DD.
- Lower shales, Div. B, Vancouver Island, list of fossils from, (73-74) pp. 264-265.
of coal-bearing rocks of Comox, B.C., (76-77) p. 168.
fossils of, thickness, (72-73) pp. 44-46.
of Cretaceous of Peace River, exposures on Peace River, thickness and fossils of, (79-80) pp. 116 B.
with coal and iron-ore, Queen Charlotte Islands, (72-73) pp. 57-62.
- Lower shales and sandstones, Div. C, Cretaceous, Q.C.is., composition, partial unconformity at base, (78-79) pp. 66-67 B.
Skidegate Inlet, at Alliford Bay, junction with agglomerate, diagrammatic section, (78-79) p. 68 B.
fossils of, (78-79) p. 68 B.
area occupied and thickness of series, (78-79) p. 69 B.
- Lower Sharbot Lake band, of crystalline limestone, characters and distribution, (73-74) p. 105.
- Lower Silurian Formation, as represented in North America, (63-66) p. 235.
of Ontario, general outline of area, (1863) p. 11.
divisions made in Canada, English equivalents, (1863) pp. 933-934.
table correlating formations, (63-66) p. 236.
of Cape Breton Island, compared with Primordial rocks of Newfoundland, (75-76) p. 393.
of southern New Brunswick, (70-71) pp. 134-158.
section of, in M'Codrum Brook, N.S., (76-77) p. 437.
- Lower Silurian Formation—*Cont.*
section of, in borings in Manitoulin Islands, Ont., (63-66) p. 252.
gold found in rocks of, in Leeds Tp. and St. Giles, Que., (63-66) p. 85.
at Halifax copper-mine, (63-66) p. 86.
in the Quebec Group, (63-66) p. 86.
notes on occurrence of hematite in, (73-74) p. 214.
- Lower Silurian rocks, of Cape Breton Co., N.S., (76-77) p. 428, and (77-78) pp. 11-16 F.
of North Hastings and Peterborough Cos., Ont., limestones, (66-69) E. p. 159, F. p. 176.
of M'Codrum Brook, Cape Breton, N.S., (76-77) p. 437.
of Manitoba, short sketch of, (73-74) p. 82.
crossing line of great break in trap overflow, Lake Superior, (1863) E. p. 473, F. p. 527.
of Queens and Sunbury Cos., N.B., note on, (75-76) p. 367.
of Sydney coal-fields, N.S., note on, (75-76) pp. 388-393.
- Lower Silurian fossils, catalogue of, giving authors and references, (1863) pp. 936-954.
in McLeod Brook, Cape Breton Island, N.S., (76-77) p. 428.
from Myra Basin, Cape Breton Co., N.S., (77-78) p. 12 F.
- Lower Smoky River, Atha., description of, (79-80) p. 57 B.
- Lower Woodstock, N.B., kames in valley of St. John River, near, (82-84) p. 22 GG.
- Lowering of water in Hudson Bay, evidences at Churchill, (78-79) p. 21 C.
- Lowhee Creek, B.C., gold workings on, (76-77) p. 135.
assay of quartz from vein, (76-77) p. 477.
- Lowland Cove, Inverness Co., N.S., Lower Carboniferous rocks of, (82-84) p. 46 H.
- Lowlands Brook, north end Cape Breton Island, N.S., felsite rocks of, (82-84) p. 20 H.
- Loyada Lake, Young Tp., Ont., exposures of Calciferous at, (1863) p. 118.
- Loxoclase, analysis of, similarity to orthoclase but with soda in excess, (1863) p. 475.
- Loxonema compacta*, Hall, wood-cut of, (1863) p. 958.
- Loxonema Colterana*, Billings, wood-cut of, (1863) p. 376.
- Lubec, Campobello Island, N.B., rocks exposed at, (70-71) p. 133.
- Lucina Richardsonii*, Whiteaves, description and figure, (73-74) p. 266.
- Lucy Island, North Island, Q.C.Is., description of, (78-79) p. 39 B.
Cretaceous rocks of, (78-79) p. 83 B.
- Ludgate's mill, Lake Utopia, N.B., granite on shore near, (70-71) p. 185.
- Lumber of British Columbia, note on distribution of Douglas fir, (79-80) p. 169 B.

- Lumpy Hill of the Woods, South Saskatchewan River, H. Y. Hind's description of, quoted, (73-74) p. 30.
- Lundin's furnace for using moist fuel, (66-69) E. p. 297, F. p. 328.
- Lunns Brook, Johnston Tp., Queens Co., N.B., section of slates and felsites on, (75-76) p. 364.
- Lutes Mt., N.B., Kingston Series forming limited area, (77-78) p. 11 D.
- Lutterworth Tp., Haliburton Co., Ont., lot 5, R. VI., and lot 16, R. VII., analysis of magnetite from, (78-79) pp. 15-16 H.
- LYALL, DR., description of Lower Fraser Valley quoted, (75-76) p. 116.
- Lyell Island, off Grey Co., Lake Huron, Ont., fossils of Niagara Formation found on, (1863) p. 333.
rocks of, having characters of Guelph Formation, fossils found, (1863) p. 344.
- Lyell Island, Q.C.Is., general description, (78-79) p. 23 B.
- Lyle seam, near Low Point, Sydney, N.S., section on coast, (74-75) p. 227.
- LYMAN, H. H., list of lepidoptera collected by R. Bell in 1882, identified by, (82-84) p. 35 CC.
list of lepidoptera from Hudson Strait, identified by, (82-84) p. 61 DD.
- Lyn, Ont., note on sandstone of, for building purposes, (1863) p. 813.
- Lynk's clearing, Cape Breton Co., N.S., altered quartzose conglomerate blocks, (77-78) p. 13 F.
- Lyons Stream, Oromocto River, N.B., Upper Carboniferous rocks on, (72-73) p. 221.
- Lyrodessa poststriata*, Emmons, wood-cut of, (1863) pp. 176, 216.
- Lytton, B.C., terraces marking former lake-levels at, (71-72) p. 55.
characteristic Nevada plants at, (75-76) p. 121.
old crystalline rocks on Fraser River, above, (77-78) p. 73 B.
Cretaceous rocks and fossils north of, (77-78) pp. 109-110 B.
- Lytton to Spence's Bridge, B.C., description of road from, (71-72) p. 23.
- Maast Island, Masset Sound, Q.C.Is., description of, (78-79) p. 35 B.
- Mabb's vein, Isle Royal mine, Michigan, (63-66) p. 161.
- Maberly, Lanark, Ont., section of group V., north of, (74-75) p. 154.
- Maberly limestone-band, part of group V., Lanark, (74-75) p. 151.
previous reference to, (73-74) p. 105.
- Mabou, N.S., character of pre-Cambrian felsites of, (79-80) p. 17 F, and (82-84) p. 8 H.
Lower Carboniferous limestone series at, gypsum, (82-84) pp. 48-49 H.
- Mabou coal-basin, Inverness Co., N.S., sections on coast and on Mill Brook, also fossils collected by Mr. Foord, (82-84) pp. 61-71H.
- Mabou coal-mines, summary of explorations by H. Fletcher for 1881, (80-82) p. 7.
search for coal in graphitic felsite, (82-84) p. 8 H.
Lower Carboniferous shales and metamorphic rocks, (82-84) p. 37 H.
note on available coal at, (82-84) p. 88 H.
- Mabou felsites near Mabou, Inverness Co., N.S., character of, (79-80) p. 17 F, and (82-84) p. 8 H.
- Mabou Harbour, N.S., plant-bearing beds of Lower Carboniferous, (82-84) p. 48 H.
- Mabou Highlands, Cape Breton Island, N.S., note on scenery of, (82-84) p. 8 H.
- Mabou River, N.S., Carboniferous conglomerates of, (82-84) p. 42 H.
section of Coal Measures on coast south to Isthmus Point, (82-84) pp. 57-60 H.
- MACADAM, STEVENSON, analyses of hematite from East River, Pictou, N.S., (73-74) p. 226.
analysis of spathic ore from Cumberland River, N.S., (73-74) p. 239.
- Macadamizing, stone for, used in Montreal, general note on, (1863) p. 812.
stone for, in cherty beds in Corniferous Formation, (1863) p. 821.
- Macastey Mountain, Anticosti Island, Que., height of, (1863) p. 223.
- Macbeth Brook, N.S., porphyry, etc., (75-76) p. 372.
- Maccan River, Cumberland Co., N.S., rocks of upper part, (73-74) p. 169.
- Maccrutchie Cove, N.S., Carboniferous rocks of, (76-77) p. 442.
- Maccrutchie road, N.S., Carboniferous rocks of, (76-77) p. 439.
- Macdonald Brook, George River, N.S., section of crystalline limestone, (75-76) pp. 384-385.
- MacDonald's Landing, Grand Lake, N.B., openings for coal, (72-73) p. 205.
- MACFARLANE, THOS., description of mining works at Acton, Que., with results of assays of ore by, (1863) pp. 716-717.
summary of work on shores of Lake Superior, (63-66) p. 10.
requested to examine Hastings Co., iron-ore deposits, (63-66) p. 10.
report on Hastings iron-ores, (63-66) pp. 91-113.
report on east shore, Lake Superior, (63-66) pp. 115-147.
report on rocks and cupriferous beds of Portage Lake, Mich., (63-66) pp. 149-164.
section at Mamainse, unconformable sandstones, (66-69) E. p. 474, F. p. 528.
referred to, (76-77) p. 125.

- Machinery, of coal mines in Nova Scotia, list, giving cost, (72-73) p. 290.
in Cariboo mines, B.C., inadequate, (76-77) p. 113.
at Queen pit, Sydney mines, N.S., (72-73) p. 245.
used in Acadia Colliery, N.S., (66-69) E. p. 98, F. p. 110.
- Macintosh Brook, N.S., end of Coxheath Hills, (76-77) p. 404.
Laurentian rocks of, (76-77) p. 414.
falls of, (76-77) p. 432.
Silurian rocks of, (76-77) p. 432.
Carboniferous rocks of, (76-77) p. 445.
- Mackay Brook, N.S., Carboniferous rocks of, (76-77) p. 438.
- Mackay Point, N.S., Carboniferous rocks of, (76-77) pp. 438-444.
- MACKENZIE, Sir ALEXANDER, reference to journeys and narratives of, in northern America, (73-74) p. 21.
reference to journey *via* Peace River to British Columbia, (75-76) p. 30.
quoted, (76-77) pp. 25, 26, 27, 29, 34.
- Mackenzie River, N.W.T., northern limit of white spruce on, (78-79) p. 41 C.
quartzite pebbles of bed of, (82-84) pp. 29 CC.
- Mackenzie River, Pleasant Bay, N.S., pre-Cambrian rocks of, (82-84) p. 20 H.
Lower Carboniferous limestones of, (82-84) p. 52 H.
general note on character of valley, timber, etc., (82-84) p. 80 H.
galena at mouth of, (82-84) p. 93 H.
occurrence of silver in drift-deposits and in veins, (82-84) p. 97 H.
- Mackerel of waters of Queen Charlotte Islands, note on, (78-79) p. 44 B.
- Mackerel Cove, Richmond Co., N.S., porphyry and felsite-breccia, (79-80) p. 5 F.
seam of hematite at, (79-80) p. 121 F.
- Mackie Lake, Miller Tp., Ont., red gneiss, dip of, red granite, (72-73) p. 147.
- Mackinaw Straits, Lake Michigan, Onondaga Formation exposed at, note on, (1863) p. 352.
- Macle, *see* Chiastolite, (1863) p. 499.
- Maclurea, (near *M. Bigsbyi*, Hall) notes on specimens from Nelson River, (78-79) p. 48 C.
- Maclurea matutina, Hall, wood-cut of, (1863) p. 115.
- MacMahon's openings for coal, Newcastle River, N.B., thickness and characters of seams, (72-73) p. 203.
- MacMaster's mill, Queensville, N.S., analysis of mineral-water from, (79-80) p. 7 H.
- Macnab Tp., Ont., deposits of hematite in, analysis of ore, (1863) pp. 677-678.
note on deposits of marl, (1863) p. 765.
building stone obtained from Laurentian limestones, (1863) p. 815.
note on marbles of Laurentian exposed in, (1863) p. 823.
- MacNider Bay, Matane Co., Que., beds at, (80-82) p. 30 DD.
- Macoma *Carlottensis*, Whiteaves, description of from Virago Sound, Q.C.Is., B.C., (78-79) p. 196 B.
- Macomang Lake, Ont., distribution of Huronian limestone near, (1863) p. 841.
copper-ores in vein in greenstone on, (1863) p. 843.
thickness of greenstone in Huronian, (1863) p. 843.
- Macomber Brook, near Quaco, N.B., Huronian rocks, (70-71) p. 64.
schists of, (77-78) p. 23 DD.
- MACOUN, JOHN, notes on lower Peace and Athabasca rivers, (75-76) pp. 87-95.
route followed from Dunvegan eastward, (75-76) p. 87.
fossils collected from Peace, Athabasca and Clearwater rivers, notes on, (75-76) pp. 103-106.
report of, as botanist to Peace River expedition. catalogue of plants, (75-76) pp. 110-185, 186-232.
narrative of journey from Victoria, B.C., to Carlton, N.W.T., *via* Fraser and Peace rivers, (75-76) pp. 110-185.
map of route from Forks of Peace and Smoky Rivers to Carlton House, (75-76) facing p. 144.
list of plants collected by G. M. Dawson, in 1878, Queen Charlotte Islands, (78-79) pp. 219-222 B.
- list of plants collected by R. Bell, in valley of Nelson and Churchill rivers and near Hudson Bay, (78-79) pp. 53-60 C.
- list of plants collected by G. M. Dawson in northern British Columbia and on Peace River, (79-80) pp. 143-146 B.
- list of plants from Nelson River valley, collected by R. Bell, 1880, (79-80) pp. 59-69 C.
- list and notes on plants of Magdalen Islands, Que., (79-80) pp. 12-1 G.
- paper read at first meeting of Royal Society, reference to, (80-82) p. 23.
- appointment as botanist and naturalist to Survey, work done during 1882, (80-82) p. 24.
- collections of marine plants made for fishery exhibit, (80-82) p. 25.
- list of plants of Hastings Co., Ont., (80-82) pp. 17-28 C.
- summary of field-work for 1883, Nova Scotia, Prince Edward Island and Anticosti, (82-84) pp. 20-21.
- list of plants from Labrador and Hudson Strait and Bay, (82-84) pp. 38-47 DD.
- Macpes Tp., Rimouski, Que., base of Gaspé limestones in, (1863) p. 418.
peat deposits in, noted, (1863) p. 783.
- Macataquac River, N.B., kame near mouth of, on St. John River, (82-84) p. 23 GG.
description of kame on head-waters of, (82-84) p. 26 GG.

- Mad River, North Thompson River, B.C.,** height by barometer at crossing of, (71-72) p. 28.
rough character of mountains, (71-72) p. 29.
journal of A. R. C. Selwyn on, (71-72) pp. 29-32.
 arrival on return journey, (71-72) p. 47.
 to Clearwater River, return journey on foot, (71-72) p. 48.
sources of, indications of gold, (71-72) p. 66.
- Madame Island, N.S.,** Devonian rocks of, (79-80) pp. 35-40 F.
Carboniferous rocks of, (79-80) pp. 55-59 F.
- Madawaska River, Ont.,** crystalline limestone referred to, (1863) p. 46.
section of Laurentian at High Falls, (1863) pp. 29-31.
analysis of pargasite from High Falls, (1863) p. 466.
fish-remains found in Leda clays, (1863) p. 917.
limestones of, (76-77) pp. 251-252.
- Madawaska River, N.B.,** the Gaspé Series exposed on head-waters of, (1863) p. 425.
- Madden Cove, Strait of Canso,** Carboniferous rocks of, (79-80) p. 88 F.
- Maddington Tp., Que.,** copper localities, (63-66) p. 318.
- Madoc, Ont.,** antinolite with magnetite, noted, (1863) p. 466.
tourmaline from near, partial analysis, p. 493.
uran-ochre reported in magnetic iron-ores of, (1863) p. 504.
description of meteor found at, (1863) p. 508.
analysis of Laurentian dolomite from, (1863) p. 593.
whetstones made from schists of, (1863) p. 809.
felsite rock, petrosilex, (63-66) p. 93.
smelting at, limestone as flux discontinued, (63-66) pp. 109-110.
 expense of, (63-66) p. 111.
 experiments with wood as fuel, (63-66) p. 110.
blue crystalline limestones and dolomites east of, (66-69) E. p. 134, F. p. 171.
conglomerate ridges north of, (66-69) E. p. 158, F. p. 175.
note on gold and copper-ores of, (74-75) pp. 160-161.
iron-pyrites examined for copper and cobalt, partial analysis, (79-80) p. 21 H.
notes on blast furnace, (73-74) p. 246.
- Madoc Tp., Ont.,** note on Laurentian of, conglomerates, (1863) pp. 32-33.
reference to magnetic iron-ores of, lodestone, (1863) p. 509.
analysis of Laurentian dolomite from, (1863) p. 593.
note on deposits of magnetic iron-ore in, (1863) p. 675.
locality for marble, dolomitic, (1863) p. 822.
recent discovery of hematite, (63-66) p. 10.
- Madoc Tp., Ont.—Cont.**
previous description of Laurentian referred to, (63-66) p. 91.
granites of, (63-66) p. 92.
conglomerates of, (63-66) p. 93.
pegmatite veins in, (63-66) p. 93.
slates of, (63-66) p. 94.
pyroxenite of, (63-66) p. 95.
hornblendic rocks of diorites and diorite slates, (63-66) p. 95.
diabase rocks of, (63-66) p. 96.
magnetic iron-ore localities, (63-66) p. 98.
hematite localities, description of, (63-66) p. 101.
discovery of hematite due to T. C. Wallbridge, (63-66) p. 101.
localities for iron-pyrites, (63-66) p. 106.
localities for copper-pyrites, (63-66) p. 106.
occurrence of oxide of manganese or wad, (63-66) p. 107.
map, on scale of 4 m. = 1 in., (66-69) E. p. 143, F. p. 159.
iron-ore bed of Div. B, distribution, (66-69) E. p. 150, F. p. 167.
Seymour ore-bed traced eastwardly, (66-69) E. p. 152, F. p. 168.
slates quarried and cut for whetstones, (66-69) E. p. 157, F. p. 174.
thickness of quartzite in, (66-69) E. p. 158, F. p. 175.
hematite locality, mode of occurrence, (66-69) E. p. 161, F. p. 179.
list of localities yielding gold, (66-69) E. p. 163, F. p. 186.
assays of gold-ores from, (66-69) E. p. 170, F. p. 189.
analysis of magnetite from Seymour ore-bed, (66-69) E. p. 259, F. p. 287.
note on reports on Seymour ore-bed, (66-69) E. p. 259, F. p. 287.
additional geological notes on rocks of, (71-72) pp. 129-132.
mode of occurrence of gold in, (71-72) pp. 131-132.
rocks of, similar to those in Renfrew, Ont., (76-77) p. 263.
partial analysis of iron-pyrites from R. IX, (79-80) p. 21 H.
output of Wallbridge mine, (82-84) p. 11 L.
- Magaguadavic Village, N.B.,** structures of Mascarene Series, (70-71) p. 148.
- Magaguadavic Bay, N.B.,** note on colour of boulder-clay, (77-78) p. 3 EE.
- Magaguadavic district, N.B.,** quartzites, mica-schists, (70-71) p. 57.
- Magaguadavic Lake, N.B.,** height of, drift deposits of, (82-84) p. 17 GG.
moraines near, (82-84) p. 10 GG.
- Magaguadavic River, York Co., N.B.,** section of Carboniferous on, (66-69) E. p. 179, F. p. 197.
Kingston Group at mouth of, (70-71) p. 127.
intrusive granites south from Piskahagan River, (70-71) p. 189.
pre-Carboniferous rocks of upper part of, the dark argillite series, (70-71) p. 195.

Magaguadavic River, York Co., N.B.—Cont.
 Perry sandstone at mouth of, (70-71) p. 203.
 Lower Carboniferous on headwaters of, (72-73) p. 183.
 section of Kingston rocks on, (76-77) p. 336.
 note on colour of boulder-clay, (77-78) p. 3 EE.
 kames in upper part of, and between two Trout Brooks, (82-84) p. 25 GG.
 list of glacial striae observed in valley of, (77-78) pp. 5-6 EE.

Maganasippi River, Ottawa River, moraine crossing river at mouth of, (1863) p. 895.

Magdalen Islands, Que., report on geology of, by Jas. Richardson, (79-80) pp. 1-13 G.
 situation of, latitude and longitude, (79-80) p. 1 G.
 relative sizes of, general description, (79-80) pp. 1-2 G.
 map used by Jas. Richardson, referred to, (79-80) p. 3 G.
 Lower Carboniferous age of rocks of, (79-80) p. 8 G.
 note on surface features, soil, timber, etc., (79-80) pp. 10-11 G.
 list of plants and notes by Prof. Macoun, (79-80) pp. 12-15 G.

Magdalen River, Gaspé, Que., rocks of Quebec Group and Hudson River Formations on, (1863) p. 268.
 distribution of Gaspé Series in basin of, (1863) pp. 407-408.
 hydraulic cement made from rock on, reference to analysis, (1863) p. 805.
 blocks carried from Table Topped Mt. down valley of, (1863) p. 893.
 plateau of marine clay, beds of gravel and sand, height of, (1863) p. 922.
 Lower Devonian beds recognized in, (80-82) p. 9 DD.
 reference to section measured by Jas. Richardson, note on position of beds on, (80-82) p. 21 DD.
 illustration showing the Grand Falls of, (80-82) facing p. 21 DD.
 description of explorations on Middle Branch of, (82-84) p. 10 F.
 the Silurian rocks of Middle Branch, (82-84) p. 14 F.
 magnetic-pyrites noted in dyke on Middle Branch of, (82-84) p. 21 F.

Magnesia, origin of, in rock formations, (1863) p. 575.
 and salts of, uses in pharmacy, preparation of, (1863) p. 756.
 for cement, suggestion for using Bolton rock in manufacture of pozzolana, (1863) p. 757.
 reference to localities for, (1863) p. 802.
 carbonate of, use of in arts and manufactures, Bolton deposits referred to, (1863) p. 756.
 analysis and distribution, occurrence of in Sutton and Bolton Tps., Que., (1863) pp. 457-458.
 in beds at Bolton and Sutton Tps., reference to, description, (1863) p. 756.

Magnesia—Cont.

salts of, note on presence of in mineral waters of Canada, (1863) pp. 551-552.
 silicates of, general note on varieties of, (1863) p. 489.
 origin of, (1863) p. 577.
 clays, analyses of from Rigaud, Que., Niagara Tp., Ont., and London, Ont., (1863) p. 641.
 in shales, examples from St. Henry, Sillery and Island of Orleans, Que., (1863) p. 601.
 sulphate of, note on presence of in dolomites of Clinton Formation, (1863) p. 460.
 in mineral-waters, note on, (1863) p. 555.

Magnesian lime, general note on character of, (1863) p. 803.

Magnesian limestones, analyses of Laurentian, (1863) p. 593.
 from Burnt Harbour, Lake Superior, (76-77) p. 219.
 from Dudswell, Que., analysis of, (1863) p. 617.
 between Gold Lake and Eel Lake, Ont., (73-74) p. 109.
see also Dolomites.

Magnesite, description and analyses, occurrence of in Bolton and Sutton Tps., Que., (1863) pp. 457-458, 615.
 for use in manufacturing cements, reference to localities, (1863) p. 802.
 vein of, near West Beach, St. John Co., N.B., (70-71) p. 237.

Magnetitic ophiolite, from Melbourne Tp., Que., description and analysis of, (74-75) pp. 308-309.

Magnet Cove, Arkansas, note on minerals of pre-Cambrian rocks of, (1863) p. 66.

Magnetic attraction, local, in trap-rocks of Nipigon Lake, Ont., (66-69) E. p. 345, F. p. 381.

Magnetic iron-sand, near Cape Fife, Q.C.Is., (78-79) p. 33 B.
 on East Main coast, Hudson Bay, note on, (77-78) p. 22 C.
 at Little Amaguadees Pond, N.S., (76-77) p. 448.
 on beach at Point Michaux, Richmond Co., N.S., (77-78) p. 27 F.

Magnetic machine, Larue's, for purifying magnetic iron-ores, (66-69) E. p. 287, F. p. 317.

Magnetic ores, list of associated minerals, and notes on, (73-74) pp. 199-205.

Magnetic pyrites, note on occurrence of in Ontario and Quebec, (1863) p. 514.
 occurrence of in Dalhousie Tp., Ont., (74-75) p. 139.
 and associated minerals of Elizabethtown, Ont., (74-75) pp. 304-306.
 occurrence in Laurentian, (63-66) p. 217.
 in schist, Lake Opasatika, Ottawa River, (72-73) pp. 122, 132.
 at Moore Lake, N.B., (76-77) p. 329.

Magnetic variation, at Bay of Chaleurs, in letter of transmissal, (80-82) Part D.
on Bonaventure River, Gaspé, Que., (82-84) p. 8 E.
list of observations taken on Churchill and Nelson rivers, and Lake Winnipeg, (78-79) pp. 71-72 C.
in Ottawa, Renfrew and Pontiac Cos., Que., (76-77) p. 319.
at Springhill, N.S., in 1873, (73-74) p. 149.

Magnetite, analyses of:—

comparative table, (73-74) p. 211.
from Bagot Tp., Renfrew, lot 13, R. VI, (80-82) p. 8 H.
from Bedford Tp., Glendower mine, (82-84) p. 10 L.
from Bristol iron-mines, Que., (73-74) p. 208.
from Chaffey mines, South Crosby, Ont., (73-74) p. 211.
from Cherry Bluff, Kamloops, B.C., (77-78) p. 46 G.
from Christie Lake mine, Ont., (73-74) p. 210.
from Fitzroy, Carleton Co., Ont., (79-80) pp. 15-16 H.
from Halliburton Co., Ont., lot 5, R. VI., and lot 16, R. VII., Lutterworth Tp., (78-79) pp. 15-16 H.
from Harriet Harbour, Q.C.Is., (78-79) pp. 14-15 H.
from Hull Tp., Que., (1863) p. 674.
from Hull iron-mines, Que., (73-74) p. 211.
comparative table of, (73-74) p. 211.
from Inverness Tp., Que., (73-74) p. 210.
from Knee Lake, Keewatin, (78-79) p. 15 H.
from lot 7, R. V., Leeds, Que., (73-74) p. 209.
rom Nictaux, N.S., partial analysis of, (73-74) p. 210.
from Olden Tp., Frontenac, Ont., lot 17, R. II., (80-82) p. 8 H.
from Pickerel River, Ont., Lake Superior, (78-79) p. 15 H.
from Seymour ore-bed, Hastings, Ont., (66-69) E. p. 259, F. p. 287.
from Texada Island, B.C., (76-77) p. 475.
from Thunder Bay, Ont., (80-82) p. 8 H.

Magnetite, note on composition and analyses of ores from various localities, (73-74) pp. 208-212.

note on in Laurentian, (63-66) pp. 214-216.
evidence in favour of eruptive origin, (63-66) p. 215.
evidence of sedimentary origin, (63-66) p. 215.

in Laurentian and Huronian, veins of, localities cited, (73-74) p. 194.
mode of occurrence, (73-74) pp. 194-205.
general proximity to limestone bands, (73-74) p. 199.
later in age than Huronian, mode of occurrence, (73-74) pp. 205-207.
regarded as eruptive in New Jersey and Russia, (73-74) p. 194.
origin of sedimentary deposits, (73-74) p. 195.

Magnetite—Cont.

produced in laboratory from bog iron-ore, (73-74) p. 195.
in form of iron-sand, note on localities, (73-74) p. 207.
notes on prominent localities of, in Ontario and Quebec, (1863) pp. 509, 672-677.
horizons of in Ontario and Quebec, (76-77) p. 295.

Magnetite, notes on, from the following localities:—

Annapolis Valley, N.S., in Devonian slates of, (73-74) p. 206.
Bay of Fundy, in rocks of Triassic age, (73-74) p. 207.
Bedford Tp., Ont., deposits in, (1863) p. 674.
Belmont Tp., Ont., note on deposits, (1863) pp. 675-676.
Black Bay, Lake Athabasca, specimen brought to Fort Chipewyan, (82-84) p. 31 CC.
Bobs Lake band of crystalline limestone, associated with, (73-74) p. 106.
Bristol iron-mines and Foley mine, (76-77) p. 247.
British Columbia, localities in, (73-74) p. 206.
Buckingham, Que., (63-66) p. 20.
Bull Moose Hill, N.B., notice of in report by Dr. Gesner, (73-74) p. 198.
Cape Breton Island, N.S., in sands of northern part, (82-84) p. 92 H.
Cherry Bluff, Kamloops Lake, percentage of iron, (77-78) p. 118 B.
Crow Lake, band of crystalline limestone in beds beneath, (73-74) p. 106.
Deer Island, Passamaquoddy Bay, N.B., note on occurrence, (73-74) p. 206.
Escott Tp., Ont., deposits of in, (1863) p. 675.
Fitzroy Tp., Ont., crystals of in, (76-77) p. 247.
Foley Tp., Ont., (76-77) p. 200.
Foley mine, ore of, (76-77) p. 247.
Frontenac, Leeds and Lanark Cos., Ont., occurring with Laurentian limestones, (70-71) p. 310-314.
Frontenac and Addington Cos., Ont., in gneiss areas of northern part, (72-73) p. 149.
Grenville Tp., Que., deposits of, (1863) p. 673.
Harriet Harbour, Q.C.Is., description of deposit, (78-79) p. 54 B.
Hastings Co., Ont., localities of exposure, (63-66) pp. 98-100.
Hastings and part of Peterborough Cos., Ont., northern part, (66-69) E. p. 160, F. p. 178.
Hull Tp., Que., analysis of shipments made, (1863) p. 674.
occurrence of, (76-77) p. 296.
Knee Lake, Keewatin, note on, (77-78) pp. 21-22 CC.
Lamirondière's Bay, Rutherford Tp., Ont., (76-77) p. 209.

Magnetite—Cont.

- Leeds, Lanark and Frontenac Cos., Ont., (70-71) pp. 312-314.
- Leeds, Megantic, Que., from chloritic slates, (73-74) p. 205.
- Lords Cove, N.B., note on occurrence of, (74-75) p. 86.
- Madoc Tp., Ont., lodestone found in, (1863) p. 509.
- Madoc, Marmora, Belmont and Seymour Tps., Ont., note on deposits, (1863) pp. 675-676.
- North Crosby Tp., Ont., Allan's location, (73-74) p. 211.
- Nova Scotia, in Silurian, (73-74) p. 206.
- Opasatika Lake, Ottawa River, in chloritic and talcose schists, (73-74) p. 205.
- Ottawa River, above Lake Temiscaming, (72-73) pp. 118, 131.
- Portage du Fort, Ottawa River, cubes of, found near, (1863) p. 509.
- St. Francis, Beauce, Que., with ilmenite at, (1863) p. 509, and (73-74) p. 206.
- St. Maurice, Que., attempt at smelting at, (73-74) p. 248.
- Scandinavian, note by Durocher on, (73-74) p. 196.
- Seymour Tp., Ont., deposits in, (1863) pp. 675-676.
- Shibaonaning, Lake Huron, occurrence near, (76-77) p. 210.
- South Crosby Tp., Ont., deposit in, (1863) p. 674.
- South Sherbrooke Tp., Ont., deposits in, (1863) p. 674.
- Sutton Tp., Que., dolomitic and chloritic rocks of, (1863) p. 509, and (73-74) p. 205.
- Trout River, near Knee Lake, Keewatin, (78-79) p. 36 C.
- Wentworth Tp., Que., deposits in, (1863) p. 673.
- Magog River, Que., gold found in clay on, (1863) p. 739.
- Magoons Point, Lake Memphremagog, Que., striped marble of, organic remains found, (1863) p. 432.
- Magpie River, Lake Superior, upper part in Laurentian rocks, (80-82) p. 6 C.
- Magpies, area where observed in N.W.T. by A. R. C. Selwyn, (73-74) p. 62.
- Magundy Brook, York Co., N.B., description of kame in valley, (82-84) p. 26 GG.
- Mahy Islands, near Cape Macquereau, Que., Cambro-Silurian rocks of vicinity of, (80-82) pp. 15-16 D.
- Maiden Island, Lake of the Woods, assay of ore for gold and silver, (82-83) p. 10 MM.
- gold location on, (82-84) p. 10 K.
- Maiden Creek, Bonaparte River, B.C., elevation of terrace, (77-78) p. 149 B.
- Maidstone Tp., Ont., near Belle River, record of well, (63-66) p. 268.
- Maigh Brook, Boisdale, N.S., Carboniferous and Laurentian rocks in, (76-77) p. 407.
- Main fault, Skidegate Inlet, Q.C.Is., line of, traced, (78-79) p. 71 B.
- Main seam, Albion mines, N.S., pits and underground workings on, (66-69) E. pp. 89-91, F. 100-103.
- section of, given by J. W. Dawson, (66-69) E. p. 369, F. pp. 409-410.
- character of coal, specific gravity, (66-69) E. p. 370, F. p. 411.
- abstract of statements by J. W. Dawson, on coal of, (66-69) E. p. 370, F. p. 411.
- assays of samples by J. W. Dawson, (66-69) E. p. 371, F. p. 411.
- clay-ironstone from, (66-69) E. p. 442, F. p. 494.
- Pictou coal-field, strike of east of East River, (66-69) E. p. 50, F. p. 55.
- section of west of East River, (66-69) E. pp. 66-68, F. p. 74-76.
- outcrop eastward from Little Branch of East River, (66-69) E. p. 73, F. p. 82.
- outcrop westward in Pictou coal-field, (66-69) E. p. 76, F. p. 84.
- break at McCulloch fault, (66-69) E. p. 77, F. p. 86.
- correlated with Acadia and Culton seams, (66-69) E. p. 78, F. p. 87.
- representative of found on East River, (66-69) E. p. 82, F. p. 92.
- in Forster pit, (66-69) E. p. 72, F. p. 80.
- Main seam, Coal Banks, Belly River, Alta., illustration showing outcrop of, (80-82) facing p. 10 B.
- details of outcrops on other streams, with sections and analysis, (80-82) pp. 10-14 B.
- Main seam, Sydney coal-fields, N.S., equivalent to Ross seam of Victoria mines, (73-74) p. 179.
- Main South-west Miramichi River, N.B., belts of granite on, extension eastward, (79-80) p. 35 D.
- outcrop of coal near Doaktown, (80-82) p. 5 D.
- Mainadieu Bay, Cape Breton Island, N.S., traces of Carboniferous sandstone on coast to Cape Breton, (77-78) p. 23 F.
- Main's ledges, Little South-west Miramichi River, N.B., gold reported at, (79-80) p. 44 D.
- Maitland, Ont., section of Calciferous Formation in Augusta Tp., (1863) p. 111.
- Maitland River, Ont., fossils found in exposures of Corniferous Formation, sections near Goderich, (1863) pp. 376-377.
- Making-ground River, Long Lake, Algoma, mica-schists, gray gneiss, (70-71) p. 333.
- Makokebatan Lake, Albany River, to Martin Falls, (71-72) p. 109.
- boulders, two outlets to Moosewake Lake, (71-72) p. 109.
- Mal Bay, Gaspé, Que., rocks of Bonaventure Formation, (1863) p. 437.
- terraces at, (1863) p. 922.

- Mal Bay, Gaspé, Que.—*Cont.*
area of Lower Carboniferous rocks on, (80-82) p. 2 DD.
- Mal Bay River, Gaspé, Que., anticlinal structure in Gaspé sandstones on, (1863) p. 885.
Devonian rocks, three series of, (80-82) p. 5 DD.
- Malachite, occurrence of the green carbonate of copper at Acton, Que., noted, (1863) p. 515.
with hematite, at Londonderry mines and Whycocomagh, N.S., (73-74) p. 222.
example at Seymour ore-bed, Madoc, Ont., (73-74) p. 203.
- Malagawatchkt Point, Bras d'Or Lake, N.S., composed of gravel, (79-80) p. 102 F.
- Malcom Ross's road, Richmond Co., N.S., pearly felsites north of, (79-80) p. 9 F.
- Malden Tp., Ont., the Corniferous Formation exposed at, fossils of, (1863) p. 378.
note on limestone of, for building purposes, (1863) p. 821.
- Malignant Cove, Arisaig, N.S., note on supposed serpentine from, (74-75) p. 309.
- Maligne portage, Dawson route, west of Port Arthur, Ont., red gneiss and mica-schists of, (73-74) p. 88.
- Malleable castings, method of preparing, (66-69) E. p. 299, F. p. 331.
old Welsh process of making, (66-69) E. p. 299, F. p. 331.
- Malleable iron, Ellerhausen's process for making, (66-69) E. pp. 298-303, F. pp. 330-336.
process of making by Turner, (66-69) E. p. 299, F. p. 331.
- Mallotus villosus*, Cuvier, wood-cut of, (1863) p. 965.
in clay, St. Lawrence River, near Portneuf River, (66-69) E. p. 310, F. p. 342.
- Maione, N.Y., character of Potsdam sandstone at, (1863) p. 88.
- Maloney Brook, Sydney, N.S., fault in Carboniferous, (74-75) p. 184.
- Maltha, from Athabasca River, N.W.T., mode of occurrence, analysis, economic uses, (80-82) pp. 3-5 H.
- Ma-min River, Masset Inlet, Q.C.Is., B.C., size of, (78-79) p. 37 B.
rocks of, lignite, (78-79) p. 88 B.
raised beaches and shell heaps, list of shells, (78-79) p. 95 B.
- Mamit Lake, Guichon Creek, B.C., formation of, size, (77-78) p. 35 B.
- Mamainse, Lake Superior, gneiss rocks near, referred to, (1863) p. 48.
note on mode of occurrence of epidote and mesolite in amygdaloidal trap, (1863) p. 71.
trap and conglomerate rocks of, thickness, (1863) p. 83.
crystals of epidote at, (1863) p. 497.
analysis of coracite, an ore of uranium, (1863) p. 504.
- Mamainse, Lake Superior—*Cont.*
note on galena localities on, (1863) p. 690.
section of strata at, note on copper-bearing beds, native copper, ancient workings, (1863) pp. 700-701.
Meredith location, ores of copper and silver, (1863) p. 701.
reference to galena carrying silver, (1863) p. 738.
T. Macfarlane's section at, quoted, (66-69) E. p. 474, F. p. 528.
rocks of, (76-77) p. 213.
similar beds seen at Pointe aux Mines, (76-77) p. 216.
- Mamainse Bay, Lake Superior, veins explored for copper, (63-66) p. 144.
- Manattawa on Kenogami River, Ont., description of river up to, (71-72) pp. 112-113.
- Mammal, bones of, in river banks, second prairie steppe, Manitoba, (74-75) p. 50.
- Mammals, of Churchill and Nelson rivers, note on collections made by R. Bell, (78-79) p. 6 C.
Mast Main and west coast of Hudson Bay, (77-78) pp. 28-29 C.
Hudson Bay and Labrador, notes on and list of, (82-84) pp. 48-53 DD.
- Mammoth bones found on Abitibi River, Ont., (77-78) p. 37 C.
in sands of Burlington Heights, Ont., (1863) p. 914.
- Mammoth ledge, Omenica, B.C., result of assays of galena, (79-80) p. 111 B.
- Managers of coal mines in Cape Breton, N.S., list of, (72-73) p. 290.
- Manawagonish marsh, Bay of Fundy, salt-water alluvium of, (77-78) p. 36 EE.
- Manawagonish road, N.B., height of raised beaches on, (77-78) p. 31 EE.
- Manganese, influence of on quality of iron, (66-69) E. p. 250, F. p. 277.
carbonate of, occurrences of in Eastern Townships, Que., (1863) p. 508.
black oxide of, additional localities in Eastern Townships, Que., Cleveland, St. Sylvester and Seignory of Gaspé, (63-66) p. 45.
occurrence of wad in Madoc, (63-66) p. 107.
localities in Ontario and Quebec, uses of, yearly supply of, (1863) p. 751.
general note on occurrences of, in Quebec, (1863) p. 507.
ores of, note on occurrences of in Canada, (1863) pp. 507-508, 751-752.
from Cape Breton, N.S., analyses by F. D. Adams, (80-82) p. 12 H.
localities and notes on, (82-84) pp. 92-93 H.
from Boulardrie Island, analysis of, (78-79) p. 17 H.
from Mira Hills, near Loch Lomond assay of, (79-80) p. 17 H.

Manganese—Cont.

- note on occurrence of on East Main coast, Hudson Bay, (77-78) p. 22 C.
- in New Brunswick, list of localities for, with notes on working of, (78-79) p. 24 D. statistics for 1869-71, (71-72) p. 151.
- occurrence of, near Fredericton, N.B., (82-84) p. 47 G.G.
- note on manner of occurrence in Kings and Albert Cos., (77-78) p. 11 D.
- at Markhamville, (70-71) p. 208.
- localities in southern part, (70-71) p. 224, and (77-78) p. 11 D, and (78-79) p. 18 D.
- of Tête à Gauche Falls, note on occurrences of, (79-80) p. 45 D.
- in Ontario, localities for, (1863) pp. 751-752.
- at Mill Lake, (76-77) p. 205.
- Thunder Bay district, pebbles coated with, (66-69) E. p. 362, F. p. 400.
- in Prince Edward Island, in rocks of North Cape, (82-84) p. 13 E.
- in Quebec, localities for, (1863) pp. 751-752.
- of Amherst Island, Magdalen Is., note on character of exposures of, (79-80) pp. 4, 10 G.
- Cleveland, note on, (76-77) p. 476.
- associated with bog-iron ore in Kamouraska, (66-69) E. p. 140, F. p. 156.
- in St. Mary Seignory, Beauce, referred to, (1863) p. 730.
- Manganese, salts of, note on presence of in mineral waters of Canada, (1863) pp. 553-554.
- Manganese mine, Loch Lomond, N.S., character of ore, (80-82) p. 8.
- Markhamville, Kings Co., N.B., in Lower Carboniferous at, (70-71) p. 65.
- of Tête à Gauche River, N.B., character of deposit, (79-80) p. 24 D.
- visited by C. W. Willmott in Nova Scotia, (82-84) pp. 21-23 L.
- Manganiferous calcite from Cumberland seam, Joggins, N.S., analysis, (77-78) p. 38 G.
- Manganite, from Amherst Island, Magdalen Is., analysis, (79-80) p. 18 H.
- occurrence of at Bachevanung Bay, Lake Superior, assay of, (1863) p. 751.
- Manhattan gas-works, N.Y., trial of McGregor coal, Acadia mines, (66-69) E. p. 436, F. p. 487.
- Manicouagan Bay, Que., molybdenite reported at mouth of Quetachoo River, (1863) p. 504.
- note on occurrence of molybdenite, (1863) p. 755.
- Manicouagan River, Que., quartz rock and crystalline limestone, (66-69) E. p. 306, F. p. 338.
- iron-sands, timber, etc., (66-69) E. pp. 307, 310, F. p. 340, 343.
- Manitoba, boring operations in, summary of work done in 1873, (73-74) p. 3.
- report by W. B. Waud, M.E., (73-74) pp. 12-16.
- list of fresh-water mollusca collected in, (78-79) pp. 61-62 C.

Manitoba—Cont.

- summary of explorations by A. R. C. Selwyn during 1882, (80-82) p. 18.
- see also *Part I*, p. 16.
- Manitoba Consolidated mine, Clearwater Bay, Lake of the Woods, description of workings and vein at, (82-84) p. 19 K.
- Manitoba Lake, see under Lake Manitoba.
- Manitow Islands. Lake Nipissing, crystalline limestone on, (76-77) p. 206.
- Manitou Islands, Lake of the Woods, Huronian rocks on, (72-73) p. 104.
- Manitou Lake, Manitoulin Island, Ont., note on, (63-66) p. 166.
- see also Tecumseth Lake,
- reported outlets of and area drained by, (1863) p. 333.
- Manitoulin Gulf, Manitoulin Island, (South Bay) dolomite band, base of Clinton Formation, fossils of, (1863) p. 320.
- Manitoulin Island, Ont., report on, (63-66) pp. 165-179.
- streams of, (63-66) p. 167.
- topography of, (63-66) p. 167.
- history of settlements on, (63-66) p. 169.
- fisheries and game of, (63-66) p. 169.
- character of south shore of, (63-66) p. 175.
- general section through island, (63-66) p. 177.
- superficial geology of, (63-66) p. 177.
- analysis of mineral-water from, (63-66) p. 272.
- topography and geology of western portion of, (66-69) E. pp. 109-117, F. pp. 123-132.
- Lake Mudjée-Manitou, Lake Wolsey escarpment, (66-69) E. p. 109, F. p. 123.
- Huronian rocks of, referred to, (76-77) p. 210.
- Manitoulin Islands, Ont., rocks of Trenton Group exposed on north side, note on character of beds, fossils, etc., (1863) pp. 194-195.
- the Utica and Hudson River Formations exposed on, (1863) pp. 216-218.
- note on exposures of Medina and Clinton Formations on, (1863) p. 320.
- the Niagara Formation in, fossils found, etc., (1863) pp. 333-334.
- map of western part, scale 8 m. = 1 in., (1863) Atlas.
- summary of work by R. Bell, (63-66) p. 9.
- soil of, (63-66) p. 167.
- trees of, (63-66) p. 168.
- agriculture of, (63-66) p. 168.
- climate of, (63-66) p. 168.
- geological description of, (63-66) pp. 170-178.
- economic materials in, (63-66) pp. 178-179.
- borings for oil, record of wells, (63-66) p. 252.
- in lists of plants with common names of, (66-69) E. pp. 449-469, F. pp. 501-524.
- for general geology see also *Part I*, p. 14.
- Manitoumaing River, tributary of Kenogami River, description of, (70-71) pp. 341-342.

- Manitounuck Group of rocks of Hudson Bay, general description, similarity to Nipigon Series, sections, etc., (77-78) pp. 11-19 C. thickness of, (77-78) p. 17 C.
- Manitounuck Islands, Hudson Bay, rocks suitable for flagstones, (77-78) p. 24 C.
- Manitounuck Sound, Hudson Bay, rock specimens from, (75-76) p. 342.
dip of beds, amygdaloidal beds, (77-78) p. 15 C.
- Manitowabin Lake, Ont., graphite in, limestone bands of, (76-77) pp. 204-205.
- Manitouwaning Bay, Manitoulin Island, Hudson River escarpment, (1863) p. 218.
fossils from, (63-66) p. 173.
cliffs of Medina Formation, (63-66) p. 173.
- Manitouwik Lake, Michipicoten River, Ont., physical features, (75-76) p. 331.
Huronian rocks of, (75-76) p. 335.
- Man-of-war Cove, L'Etaug Harbour, N.B., Coastal Group of rocks, (70-71) p. 87.
- Manowagonish Beach, N.B., section of Leda clay deposits, with organic remains, (77-78) p. 24 EE.
- Mansfield Island, Hudson Bay. appearance of from sea, rocks supposed to be volcanic, (79-80) p. 18 C.
general description of, fossiliferous limestones, (82-84) p. 33 DD.
- Mansfield Tp., Que., deposit of ochre noted, (1863) p. 769.
deep deposit of sand in, (76-77) p. 282.
- Manson River, B.C., assay of quartz from lode, (75-76) p. 430.
gold workings on, (76-77) p. 140.
- Manufacture of iron and steel by direct methods, (66-69) E. pp. 269-304, F. pp. 298-336.
in North Hastings, Ont., (63-66) p. 102.
- Manufacture of salt in Canada, history and statistics, (74-75) pp. 267-300.
at Goderich and Clinton, (66-69) E. pp. 222-227, F. pp. 245-251.
solar salt, at Syracuse, N.Y., (66-69) E. pp. 227-239, F. pp. 251-264.
- Maps, used in compiling Logan's general map of Canada, list of, (1863) pp. 12-15 Atlas.
note on proposed colours used in signs and lettering, (78-79) p. 6.
index to colours and signs used on, (80-82) facing p. 47.
colouring and notation of, scheme used by Geological Survey, (80-82) pp. 49-51.
of value as indicating character of soil, New Brunswick geological map, (80-82) p. 2 D.
in preparation in 1875, by Geological Survey, (74-75) p. 6.
- Maps of Canada:—
Logan's, first copies received, list to whom given, (69-70) p. 9 Summ.
cost of, letter relative to distribution of, (68-69) p. 10 Summ.
- Maps of Canada:—*Cont.*
eastern part, embracing Manitoba and Maritime Provinces, scale 125 m. = 1 in., geologically coloured, (1863) Atlas.
showing northern limits of forest trees of Canada east of Rocky Mountains, (79-80) accompanying Part C.
- Maps of British Columbia:—
showing distribution of more important trees, accompanying note on, (79-80) pp. 167-177 B.
southern part, (77-78) accompanying Part B.
part of, between Fraser River and Coast range, by G. M. Dawson, 8 m. = 1 in., (76-77) p. 17.
part of, and North-west Territory, from mouth of Skeena River to Edmonton, scale 8 m. = 1 in., (79-80) accompanying Part B.
Comox coal-field, with sections accompanying report, (72-73) pp. 32-35.
showing coal-basins of Comox, Nanaimo, Cowichan and Sooke, Vancouver Island, and Tertiary rocks of Burrard Inlet, accompanying, (76-77)
of Queen Charlotte Islands, scale 8 m. = 1 in., (78-79) accompanying Part B.
notes on latitudes and longitudes adopted, (78-79) pp. 233-239 B.
of Skidegate Inlet, Q.C. Is., scale 1 m. = 1 in., (78-79) facing p. 63 B.
showing sketch-survey of route from Quessel to junction of Peace and Smoky Rivers, accompanying, (75-76)
note on construction of, (75-76) p. 31.
- Maps of Manitoba and North-west Territories:—
of part of Athabasca River and Lake, to illustrate R. Bell's exploration and report, scale 8 m. = 1 in., (82-84) Part CC.
of coal and lignite outcrops, Bow and Belly River district, scale 8 m. = 1 in., (80-82) accompanying Part B.
in region in vicinity of Bow and Belly rivers, (or Southern Alberta) scale 8 m. = 1 in., showing geology and wooded and prairie tracts, (82-84) accompanying Part C.
of East Main coast of Hudson Bay, (77-78) accompanying Part C.
of Island and Gods lakes, and connecting waters to Oxford House, Keewatin, scale 4 m. = 1 in., (78-79) accompanying Part C.
of Lake Winnipeg, notes on compilation of, (77-78) p. 23 CC.
scale 8 m. = 1 in., (77-78) accompanying Part CC.
of Nelson River and boat-route from Lake Winnipeg to Hudson Bay, scale 8 m. = 1 in., (77-78) accompanying Part CC.
showing route travelled by John Macoun, from forks of Peace River to Carlton House, N.W.T., (75-76) facing p. 144.
- Maps of New Brunswick:—
by Dr. Jas. Robb, 1850, first geological map published, note on, (70-71) p. 21.
by Dr. Gesner, 1841, not published, note on, (70-71) p. 21.

Maps of New Brunswick—*Cont.*

- by Bailey and Matthew, 1865, note on, (70-71) p. 27.
 by J. W. Dawson in 1868, note on, (70-71) p. 27.
 of south-eastern part, note on surveys made for, (77-78) p. 3 D.
 surveys made for construction of, (80-82) p. 1 D.
 of part of, published in 1884, Fredericton, Buctouche and Charlottetown sheets, scale 4 m. = 1 in.
 of Lower Carboniferous rocks of Albert and Westmoreland Cos., scale 1 m. = 1 in. accompanying, (76-77).
 of iron-ore deposits of Carlton Co., by R. W. Ellis, (74-75) p. 97.
 of Charlotte, St. John and Kings Cos., N.B., three sheets, scale 4 m. = 1 in., (78-79) accompanying Part D.
 of Restigouche, Gloucester, Northumberland and Kent Cos., N.B., five sheets, 4 m. = 1 in., (80-82) accompanying Part D.
 of York, Carleton and part of Victoria Cos., scale 8 m. = 1 in., (66-69) facing E. p. 173, F. p. 191.

Maps of Nova Scotia:—

- of Acadia iron-ore deposits, (72-73) facing p. 19.
 of part of Victoria, Cape Breton and Richmond Cos., scale 1 m. = 1 in. accompanying report, (76-77) pp. 402-456.
 of Cape Dauphin coal district, scale 1 m. = 4 in., (74-75) facing p. 251.
 of Pictou coal-field, accompanying, (66-69) p. 3.
 acknowledgments for plans, surveys, etc., (66-69) E. p. 65, F. p. 61.
 showing position of Springhill coal-field, N.S., (73-74) facing p. 160.
 of Springhill and Cumberland Co. coal-fields, (1885) accompanying Part E.
 of eastern part of Sydney coal-field, scale 1 m. = 1 in., (74-75) facing p. 266.
 of western part of Sydney coal-field, accompanying, (75-76).

Maps of Ontario:—

- showing superficial deposits between Lake Superior and Gaspé, (1863) Atlas.
 of basin of Moose River, with Michipicoten and White Rivers, Lake Superior, (80-82) accompanying Part C.
 of North Hastings and parts of Addington and Peterborough, (66-69) E. p. 143, F. p. 159.
 of Huronian, north of Lake Huron and St. Mary River, from Bachewahung Bay to Mississagui, 8 m. = 1 in., (1863) Atlas.
 of Lake of the Woods and adjacent country, by R. Bell, scale 8 m. = 1 in., (80-82) accompanying Part C.
 of Lanark Co., Ont., and part of Renfrew, geologically shaded by H. G. Vennor, (74-75) p. 105.
 Lanark and Renfrew Cos., (76-77) p. 244.
 of gold mines of Marmora Tp., Ont., (71-72) p. 140.

Maps of Ontario—*Cont.*

- of Nipigon Lake and River, Black Sturgeon Lake and River, scale 4 m. = 1 in. accompanying, (66-69).
 of part of North Burgess, Ont., showing openings for apatite, (73-74) p. 128.
 notes on surveys used in compiling, (74-75) p. 107-108.
 Maps of part of Prince Edward Island on Buctouche, North Point and Charlottetown, Map-sheets issued in 1884.
 Maps of Quebec:—
 of Lower Silurian rocks, Chaudière River to Trois Pistoles River, Que., (66-69) E. p. 119, F. p. 133.
 of Eastern Townships, reference to, (63-66) p. 30.
 work by R. Barlow on, 1871, (71-72) p. 14.
 of Potsdam, Quebec and Trenton Groups, on east side Lake Champlain, scale 2 m. = 1 in., (1863) Atlas.
 of Ottawa Co., accompanying report, scale 4 m. = 1 in., note respecting, (76-77) p. 319.
 showing distribution of Laurentian rocks in part of Ottawa, Terrebonne, Argenteuil and Two Mountains Cos., scale 7 m. = 1 in., (1863) Atlas.
 Maple, occurrence of in British Columbia, note on, (79-80) p. 175 B.
 Maple Bay, Nanaimo, B.C., coal rocks near, (76-77) p. 171.
 Maple Cape, Lake Huron, analysis of bituminous Utica shale, (1863) p. 622.
 Maple Island, near Goulais Bay, Lake Superior, sandstones underlying, (1863) p. 83, and (76-77) p. 205.
 Maple Point, Manitoulin Island, Ont., petroleum spring in Utica shale on island north of, (1863) p. 217.
 Maple (negundo) grown at Victoria, N.W.T., from Manitoba seed, (75-76) p. 289.
 Mapleton, N.B., distribution of Albert shales, (76-77) p. 358.
 diagrammatic section of Albert shales, (76-77) facing p. 356.
 notes on, (76-77) p. 359.
 notice of boring for albertite at, (78-79) p. 25 D.
 felspathic rocks of Spruce Peaks, (82-84) p. 20 G.
 Maquapit Lake, N.B., exposures of coal forming rocks on, (72-73) p. 211.
 Mara Tp., Ont., the Trenton Group exposed in, (1863) p. 192.
 Marble, collection of by Geological Survey, exhibited at Paris, (1863) p. 822.
 Marble, in British Columbia, (76-77) p. 134.
 on west bank Columbia River, opposite Fort Colville, (82-84) p. 22 B.
 white, in Hutton Inlet, Juan Perez Sound, (78-79) p. 57 B.

Marble—*Cont.*

- of Mount Mark, Vancouver Island, value for building and ornamental purposes, (73-74) p. 101.
 note on localities of, in Cape Breton Island, N.S., (75-76) p. 416.
 note on occurrences, (77-78) p. 30 F.
 southern part, reference to Marble Mountain deposit, (79-80) p. 125 F.
 in northern part, localities for, (82-84) p. 98 H.
 occurrence of at Cape Dauphin, (74-75) p. 264.
 at Brown's, Escasonie, (76-77) pp. 427, 456.
 of the Indian Reserve, Escasonie, (76-77) pp. 427, 456.
 from Marble Mt., Inverness Co., extent, quality, and quarries of, (77-78) pp. 30-32 F.
 of the North River of St. Anne's, (76-77) p. 427.
 in New Brunswick, from Elm Tree River, Bay of Chaleurs, (79-80) p. 19 D.
 from Narrows of St. John River, serpentines, (70-71) p. 235.
 trials made of specimens of, from St. John River, (72-73) p. 229.
 in Ontario, description of and notes on localities, (1863) pp. 821-823.
 reference to, from Elzevir, Madoc, Marmora and Barrie Tps., (70-71) p. 315.
 from Hungerford Tp. and Bridgewater, (63-66) p. 94.
 from Marmora Tp., horizon of, (66-69) E. p. 155, F. p. 172.
 quarried for building stone, North Hastings, (63-66) p. 107.
 from Palmerston Tp., description and analysis, (74-75) p. 132.
 of Quebec, descriptions of and notes on localities, (1863) pp. 821-823.
 occurrence of workable bed in Hull Tp., (82-84) p. 20 L.
 of upper series of rocks north of Lake Memphremagog, (1863) p. 432.
 serpentinous, note on varieties of at Grenville and Wentworth, (1863) p. 823.
 Marble Cañon, B.C., cliffs of limestones, (71-72) p. 60.
 and Hat Creek, Fraser River, B.C., description of, (77-78) pp. 12-13 B.
 foraminifera discovered in limestone, (77-78) p. 88 B.
 mode of occurrence of *Loftusia* in limestone of, (77-78) pp. 89-90 B.
 east entrance, dislocated and compressed anticline, diagram showing, (77-78) p. 90 B.
 Cache Creek Series of, limestones of, fossils, evidence of lateral pressure, section across anticline, (77-78) pp. 89-91 B.
 diagrammatic section through, (77-78) facing p. 174 B.
 Marble Island, Hudson Bay, assay of pyrites from coast opposite, (78 79) p. 23 H.

Marble Island, Hudson Bay—*Cont.*

- quartzite from, noted by R. Bell, (82-84) p. 29 CC.
 illustration showing view of harbour on, (82-84) facing p. 34 DD.
 note on quartzite of, carbonate of copper, glacial striae, (82-84) pp. 34-35 DD.
 Marble Head, Drummond Island, Michigan, building stone, (66-69) E. p. 114, F. p. 129.
 section of Niagara Formation at, (66-69) E. p. 115, F. p. 130.
 Marble Lake, Barrie, Ont., extent of dolomite bands, (72-73) p. 154.
 band of limestone, general course of, (72-73) p. 156.
 Marble Mountain, Inverness Co., N.S., analysis of limestone from, (77-78) p. 29 F.
 note on marble of, extent, quality, and quarries, (77-78) pp. 30-32 F.
 note on relation of syenite and crystalline limestone of, diorite inclusions in syenite, wood-cut of, (79-80) p. 22 F.
 reference to marble quarry at, (79-80) p. 125 F.
 Marble quarry, Bristol Tp., Que., (76-77) p. 292.
 North Mountain, Inverness Co., N.S., character of marble, relation to syenite, (79-80) p. 21 F.
 Marble Rapids, Mississippi River, Ont., extent of dolomite bands, (72-73) p. 154.
 Marcellus shales, in New York, characters of, (1863) p. 380.
 MARCHAND, CAPT. ETIENNE, note on voyage of to Queen Charlotte Islands, 1791, (78-79) p. 11 B.
 description of Haida houses on North Island, Q.C.Is., (78-79) p. 147 B.
 Margaree Forks, N.S., mottled shales, sandstones and conglomerates, (82-84) p. 45 H.
 Margaree Island, N.S., rocks exposed on, (82-84) p. 76 H.
 Margaree River, N.S., Coal Measures along coast near, (82-84) p. 76 H.
 note on scenery of, (82-84) p. 84 H.
 Margaree River map-sheet, issued 1884, scale 1 m. = 1 in.
 Margaree road, N.S., gold near the, (76-77) p. 452.
 Margaree Sugarloaf, N.S., felsites of, (82-84) pp. 24-25 H.
 Margaret Island, Que., Northwest anticline reaching to, (66-69) E. p. 120, F. p. 134.
 graptolitic shales of Lévis Formation, (66-69) E. p. 131, F. p. 145.
 glauconite shales, base of Lauzon division, (66-69) E. p. 131, F. p. 145.
 Margaretville lighthouse, N.S., occurrence of minerals near, (82-84) p. 25 L.
 Margarite, occurrence of, in New Jersey, (63-66) p. 211.
 Maria Capes, Bay of Chaleurs, thickness of marine clay at, (80-82) p. 20 D.

- Maria Lake, Nipigon River, Ont., length of, (66-69) E. p. 337, F. p. 372.
mica-schist and Huronian rocks, (66-69) E. p. 339, F. p. 374.
glacial striae, (66-69) E. p. 352, F. p. 389.
- Marin Brook, Gaspé, Que., Hudson River rocks of, fossils found, (80-82) p. 17 DD.
- Marine belt, west of St. John River, N.B., character of country, (70-71) p. 16.
- Marine clays, of Albany River, reach to Mattawa on Kenogami River, (71-72) p. 113.
of Bathurst, N.B., shells found in, (79-80) pp. 42-43 D.
of Bay of Chaleurs, general note on, (80-82) p. 20 D.
of southern part of James Bay basin, (75-76) p. 340.
- Marine invertebrates, from Ashe Inlet and Port Burwell, Hudson Strait, list of, (82-84) pp. 58-60 DD.
in Leda clay of N.B., list of, (77-78) pp. 29-30 EE.
from the Queen Charlotte Islands, list of, by J. F. Whiteaves, (78-79) pp. 190-205 B.
see also Marine shells.
- Marine mollusca collected by R. Bell in 1880, Hudson Bay, (79-80) p. 76 C.
- Marine shells, in clays at the Forks, Albany River, list of, (71-72) p. 112.
in drift-deposits on Churchill River, elevation above sea, (78-79) p. 20 C.
at Churchill and on islands in river, (78-79) p. 21 C.
in clays and sands, east coast of Graham Island, Q.C.Is., (78-79) p. 91 B.
in glacial drift of Hudson Bay, on East Main coast, (77-78) p. 32 C.
collected near Moose Factory, on Moose River, (75-76) p. 340.
distribution of in clays on Moose River, (77-78) p. 7 C.
of clay banks, Nelson River, (77-78) p. 11CC, and (78-79) p. 24 C.
in sands of Ottawa valley, height of different localities, (1863) p. 924.
see also Marine invertebrates.
- Marion Bridge, Mira River, N.S., note on rocks at, (75-76) p. 393.
- Mark Point, St. Peters Bay, N.S., Devonian rocks at, fossils, coaly matter in sandstone, (77-78) p. 18 F.
- Markham Tp., Ont., note on boulders in, (1863) p. 895.
- Markhamville, Kings Co., N.B., manganese mine, Huronian rocks of vicinity, (70-71) p. 65.
Lower Carboniferous beds, with manganese, (70-71) p. 208.
description of manganese-ore, (70-71) p. 224.
pearl-spar calcite, barytes, limestone and pyrolusite, (70-71) p. 237.
mode of occurrence of manganese, (77-78) p. 10 D.
progress of mining for manganese, (78-79) p. 18 D.
- Markhamville, King's Co., N.B.—*Cont.*
note on deposit of manganese, (78-79) p. 24 D.
statistics of ore raised, 1869-71, (71-72) p. 151.
- Mark Hill, Grand Manan Island, Triassic trap, height of, (70-71) p. 220.
- Marl, Athabasca Valley, note on marl of Lac la Biche, and Devonian marl from Fort McMurray, (82-84) p. 31 CC.
Assiniboine River, Man., Cretaceous, at crossing of White Mud Creek, (74-75) p. 29.
Bay of Chaleurs, shell, in lakes near New Carlisle and Paspebiac, (80-82) p. 20 D.
of Belledune Point and Charlo Station, N.B., shell, (79-80) p. 42 D.
in Goderich boring, Ont., (76-77) p. 229.
of Kenogami River, Ont., character, colour, (71-72) p. 113.
in southern New Brunswick, lacustrine, (77-78) pp. 34-35 EE.
of Onondaga Formation in wells at Goderich, Tilsonburg, etc., (63-66) p. 263.
from Pikitigouching River, Lake Nipigon, analysis of, (74-75) p. 312.
of upper part of Upper Copper-bearing rocks of Lake Superior, general note, (1863) p. 70.
fresh-water, origin and uses of, description of deposits, (1863) pp. 763-767.
- Marls and limestones in Carboniferous area, Tobique River, N.B., (66-69) E. p. 201, F. p. 223.
- Marmora, Ont., red sandstone at, possibly Potsdam, (1863) p. 100.
rocks of Trenton Group, resting on irregular surface of Laurentian, (1863) p. 295.
granite used for hearths in furnaces, (63-66) p. 92.
smelting of iron at, suggestions on, (63-66) p. 108.
- Marmora blast-furnace, cause of failure, (73-74) p. 246.
- Marmora gold-district compared with Schwarzenberg, Germany, (71-72) p. 132.
- Marmora gold-mines, map showing location, (71-72) p. 140.
- Marmora iron-works, Crow River, section of basal beds of Trenton Group at, (1863) pp. 181-182.
section of Trenton Formation at, (1863) p. 186.
- Marmora Tp., Ont., copper-pyrites in iron-ore deposits, Crow Lake, note on, (1863) p. 514.
note on magnetic iron-ore deposits of, (1863) p. 675.
white marble obtained in, (1863) p. 823.
note on lithographic stone, (1863) p. 834.
quartzite in McCallum ore-bed, (63-66) p. 93.
diabase rocks of, (63-66) p. 96.
magnetic iron-ores, localities for, (63-66) p. 100.
glacial striae, (63-66) p. 102. (*read Marmora for Madoc, line 23.*)

Marmora Tp., Ont.—Cont.

description of hematite deposits, localities, (63-66) p. 102.
 localities for iron-pyrites, (63-66) p. 107.
 note on occurrence of mispickel, (63-66) p. 218.
 sulphuret of antimony, (63-66) p. 218.
 map, scale 4 m. = 1 in., (66-69) E. p. 143, F. p. 159.
 iron-ore bed of division B, Hastings Series, distribution of, (66-69) E. p. 151, F. p. 167.
 distribution of divisions C 2 and C 3, (66-69) E. p. 156, F. p. 173.
 list of localities yielding gold, (66-69) E. pp. 168, F. p. 186.
 assays for gold from localities in, (66-69) E. p. 170, F. p. 189.
 geological notes on rocks of, (71-72) pp. 129-132.
 geological position of gold-bearing rocks of, with assays, (71-72) pp. 129-140.
 age of granite areas in, (71-72) p. 130.
 bedded lodes and slates, auriferous, (71-72) p. 131.
 mode of occurrence of gold in, (71-72) pp. 131-132.
 report on various mines working in 1871, (71-72) pp. 132-140.
 fissure-veins in gold-bearing rocks, (71-72) p. 132.
 list, of lots mined for gold in, (71-72) p. 133.
 assays, of gold-ores from mines in, (71-72) p. 141.
 summary of assays of gold-ores from, averages of yield, (73-74) p. 7.
 vein of magnetite near the Marsh ore-bed, (73-74) p. 194.
 example of siderite with magnetite found in, (73-74) p. 204.
 copper-ore, localities for referred to, (74-75) p. 161.
 occurrence of native copper noted, (74-75) p. 162.
 assay of mispickel from, for gold and silver, (79-80) p. 19 H.
 description of mine of Canada Consolidated Gold Mining Co., treatment of ore, (82-84) pp. 12-13 L.
 Marquette, Mich., rocks bearing iron-ores, probably Huronian, (1863) p. 66.
 Marriages among Haida Indians, notes on, (78-79) p. 129 B.
 Marrington mine, Ascot Tp., Que., iron-pyrites and copper-ore, (63-66) p. 42.
 Marsh Bay, Gaspé, Que., synclines and strike of beds at, (80-82) p. 21 DD.
 Marsh Brook, Inverness, N.S., Coal Measures of, (82-84) p. 74 H.
 Marsh Brook, Pictou, N.S., from George McKay seam to McLellans Brook, measures on, (66-69) E. p. 17, F. p. 19.
 possible outcrop of McBean seams, (66-69) E. p. 33, F. p. 37.
 analysis of oil-coal from, (66-69) E. pp. 394-395, F. pp. 437-438.

Marsh Colliery pit, Pictou, N.S., Coal Measures of, (66-69) E. p. 17, F. p. 18.
 Marsh Colliery, Pictou, N.S., Marsh pit coal of George Mackay seam. analysis of, (66-69) E. p. 390, F. p. 433.
 gas trials of coal at Halifax and Boston, (66-69) E. p. 434, F. p. 484.
 Marsh Creek, St. John, N.B., rocks on, (70-71) p. 62.
 Marsh ore-bed, Marmora, Ont., (63-66) p. 100.
 (see errata, p. 160, (66-69)
 mentioned as on horizon of ore-bed of Div. B, (66-69) E. p. 151, F. p. 168
 occurrence of vein of magnetite near, (73-74) p. 196.
 presence of pyrrhotine with magnetite, (73-74) p. 204.
 Marsh pit group of coal-seams, Pictou, N.S., tested by Mr. Lawson, (66-69) E. p. 27, F. p. 31.
 section of, (66-69) E. p. 28, F. p. 31.
 Marsh Point, Inverness Co., N.S., Lower Carboniferous rocks of coast near, (82-84) p. 51 H.
 Marsh River, north of Lake Huron, limestone band supposed to follow valley, (1863) p. 841.
 Marshall Point, Guysborough Harbour, N.S., conglomerate hills near, (79-80) p. 46 F.
 Carboniferous limestone at, (79-80) p. 60 F.
 Marshbrook road, N.S., amygdaloids probably Carboniferous, (82-84) p. 38 H.
 Marshes in Richmond and Inverness Cos., N.S., note on, (79-80) p. 114 F.
 Marsh-gas in rocks of Canada, note on, (1863) p. 527.
 Marshpool Brook, North-east Margaree River, N.S., pre-Cambrian rocks of, (82-84) p. 27 H.
 Marsouin River, Que., the lower black shales of Quebec Group exposed on, general note on rocks of, (1863) p. 267.
 Hudson River shales, contact of with Quebec Group, fault, (1863) p. 267.
 fault, near mouth of, sandstones at mouth, graphitic shales with Utica fossils, (80-82) p. 22 DD.
 Martin Pond, near Guysborough, N.S., Carboniferous conglomerates at, (79-80) p. 60 F.
 Martin seam of coal, Grand Lake road, N.S., thickness, (74-75) p. 190.
 Martinique, Madame Island, N.S., note on Carboniferous rocks of, (79-80) p. 56 F.
 Martins Brook, Acadia iron-mines, N.S., analysis of iron ore, (72-73) p. 30.
 analysis of limonite, (73-74) p. 232.
 cost of raising ore at mines on, (72-73) p. 25.
 Martins Falls, Albany River, vegetables grown at, (71-72) p. 110.
 gneiss reported at, (66-69) E. p. 349, F. p. 386.
 blending of Huronian and Laurentian at, (71-72) p. 110.

- Martins Falls, Albany River—*Cont.*
note on season of navigation at, (79-80)
p. 36 C.
- Martin's farm, Mechanic settlement, N.B., albertite in granitoid rocks, (78-79) p. 17 D.
- Martins Head, N.B., Carboniferous rocks at, (70-71) p. 211.
gypsum deposits, (70-71) p. 237.
dip of beds, (77-78) p. 9 D.
the Triassic rocks of, lignite in, (78-79)
p. 21 D.
- Martins Point, Nfld., composed of Quebec Group conglomerates, (1863) p. 878.
- Martin's steel-process, known as Siemens-Martins process, (66-69) E. p. 294, F. p. 325.
- Mary Ann Brook, Victoria Co., N.S., rocks of, (82-84) p. 18 H.
- Maryborough Tp, Ont., fragments of Onondaga rocks denote outcrop in vicinity, (1863) p. 351.
superficial deposits, hard-pan, (1863) p. 900.
- Mascarene Peninsula, Charlotte Co., N.B., section of rock series on shore, (70-71) p. 145.
- Mascarene Series in New Brunswick, details of exposures and sections, (70-71) pp. 144-158.
contrast with Huronian, fossils, (70-71) p. 144.
note on characters of divisions traced from Mascarene shore, (74-75) pp. 86-88.
divisions 2 and 4, fossils of, (74-75) pp. 87-88.
compared with Upper Silurian, north of crystalline belt in N.B., (74-75) p. 88.
their age in Charlotte Co., (76-77) p. 322.
representative rocks in Queens and Sunbury Cos., N.B., (75-76) pp. 352-366.
included in Silurian or Upper Silurian Formation, (78-79) p. 10 D.
Mascarene and Kingston Series, correlated as Upper Silurian, (74-75) p. 85.
- Mascouche River, Que., the Trenton Formation on, (1863) p. 148.
- Mashigoweech, Bay of Chaleurs, Bonaventure Formation and underlying rocks exposed at, (1863) p. 446.
- Masks, worn in *Ska-rut* dance by Haida Indians, (78-79) p. 128 B.
used in dancing, (78-79) p. 137 B.
illustrations of, plate VI., (78-79) Part B.
- Maskinongé Co., Que.:
for general geology see *Part I*, p. 9.
- Maskinongé River, Ont., note on copper in Huronian on lower lakes of, (1863) p. 60.
copper-ores in vicinity of lakes on, (1863) p. 697.
- Maskinongé River, Que., exposures of Trenton Formation, (1863) p. 150.
limestone band in Laurentian, probably Green Lake band, (1863) p. 837.
- Masonite, similar to chloritoid, analysis of, (1863) p. 498.
- Massachusetts, crystalline limestones of, (63-66) p. 197.
- Massawippi Lake, Hatley Tp, Que., note on marble at, (1863) p. 432.
- Masset, Q.C.Is., B.C., description of country about, (78-79) p. 35 B.
specimens of anthracite reported from, (76-77) p. 144.
origin of name, (78-79) p. 164 B.
- Masset Inlet, Q.C.Is., description of approaches to, (78-79) p. 35 B.
irregularity of tides in, (78-79) p. 37 B.
general character of volcanic rocks of, (78-79) pp. 87-89 B.
to Virago Sound, rocks of coast, (78-79) p. 89 B.
fossiliferous drift at mouth of Wa-toon Brook, (78-79) p. 92 B.
hollow left by glacier occupied by waters of, (78-79) p. 100 B.
description of Indian villages of, (78-79) pp. 163-164 B.
latitude observations taken in, (78-79) p. 235 B.
- Masset Sound, Q.C.Is., B.C., sketch made by H. N. Knox in 1853, (78-79) p. 13 B.
description of, (78-79) p. 35 B.
formerly McIntyre's Bay, first visit of Douglas to, (78-79) p. 157 B.
- Massive rocks of Quebec Group, microscopic structure of by F. D. Adams, (80-82) pp. 8-14 A.
- Masterman Islands, near Hardy Bay, Vancouver Island, glaciation to north-west, (78-79) p. 97 B.
- Mastic for pavements, proportions of bitumen used, (1863) p. 790.
- Mastodon remains, found at Niagara Falls, Ont., (1863) p. 914.
on Shell River, Man., referred to, (74-75) pp. 50, 63.
found in bed of Moose River, below forks, (77-78) p. 7 C.
- Matagamishig Lake, Ont., copper-ores found in Huronian rocks of vicinity, (1863) p. 697.
note on rocks of, (75-76) p. 297.
- Matane Co., Que.:—
for general geology see *Part I*, p. 9.
- Matane, Que., graptolites from, identified by H. M. Ami, (80-82) p. 22.
shales of coast near, horizon of, (1863) p. 262.
- Matane River, Que., shales and conglomerates below Sillery Formation, (1863) p. 264.
the lower black shales of Quebec Group on, (1863) p. 266.
note on occurrence of Anticosti Group on, (1863) p. 309.
the distribution of the Gaspé Series, fossils in limestone, (1863) p. 413.
deposit of marl about five miles east of, (1863) p. 766.

- Matane River Que.—*Cont.*
marine shells in terrace at mouth of, (1863) p. 922.
Silurian rocks on, reference to former reports on, (82-84) p. 29 E.
- Matane Tp., Que., peat-bog reported in, (1863) p. 783.
- Matapedia Lake, *see* Lake Matapedia.
- Matapedia River, Gaspé, Que., note on occurrence of Anticosti Group on, (1863) p. 309.
Gaspé Series and Quebec Group on, (1863) pp. 413-415.
western limit of Devonian rocks on, (82-84) p. 20 E.
distribution of Silurian rocks on, (82-84) pp. 25-26 E.
- Matatchewan Falls, on Montreal River, Ont., location, height, (75-76) p. 302.
- Matawatchan Tp., Renfrew Co., Ont., molybdenite reported from, (74-75) p. 165.
- Matawagogig Lake, Ont., rocks of streams south of, (72-73) p. 123.
timber of hills, (72-73) p. 132.
- Matchedash Bay, Lake Huron, boundary of Laurentian near, (1863) p. 47.
reference to green sandstone for building purposes, (1863) p. 814.
rocks of coast, (76-77) pp. 195-196.
- Matheria tener*, Billings, wood-cuts of, (1863) p. 147.
- Matheson's apatite locations, North Burgess Tp., Ont., examination of, (71-72) p. 125.
- Matheson and Bell's phosphate location, North Burgess, opening made in 1871, (71-72) p. 127.
- Matheson seam, Matheson mine, N.S., section at mine, equivalent to Collin's seam, (74-75) p. 244.
output of coal, (74-75) p. 249.
- MATHEWS, P., donations of bird-skins to Museum, (78-79) p. 67 C.
- Mats, made by Haida Indians, (78-79) p. 143 B.
- Mattagami, meaning of Indian name, (75-76) p. 296.
- Mattagami Lake, Moose River, Ont., topographical and geological features, reddish granite, (75-76) pp. 307-308.
rocks of vicinity, veins with copper and lead ores, (80-82) pp. 7-8 C.
- Mattagami River, Ont., general description of branches of, (75-76) p. 309.
detailed description of, (75-76) pp. 309-321.
character of Laurentian gneiss of lower part, (75-76) p. 313.
characters of diorite dykes, effect on topography, (75-76) pp. 314-315.
- character of banks of lower part, limestone exposures of, notes on fossils of, (75-76) pp. 315-320.
map of, showing geology, scale 8 m. = 1 in., *see* map of Basin of Moose River, (80-82) accompanying Part C.
- Mattagaming Lake, Ont., shape of, (75-76) p. 331.
Huronian rocks of, (75-76) p. 335.
re-survey made by R. Bell, 1877, (77-78) p. 3 C.
- Mattawa, English River, Ont., stratified deposits, soil, etc., at, (72-73) p. 16.
- Mattawa Lake, English River, Ont., strike of rocks, (72-73) p. 100.
- Mattawa River, Keewatin, junction with English River, (72-73) p. 11.
drainage basin of, (72-73) p. 103.
- Mattawa River, Ont., Talon Lake band of limestone on, (76-77) p. 207.
- Mattawa River, Thunder Bay District, Huronian rocks of, (66-69) E. p. 330, F. p. 364.
red clay forming soil, (66-69) E. p. 355, F. p. 392.
- Mattawagamish Lake, Ont., to Wabatongwashene Lake, notes on geology of, (80-82) pp. 3-4 C.
- Mattawagamish Lake, Ont., copper-ores found in Huronian rocks of vicinity, (1863) p. 697.
rocks of, (75-76) p. 297.
- Mattawish-quai-a River, Ont., location of mouth on Missinaibi River, (75-76) p. 328.
- MATTHEW, G. F., work by, with L. W. Bailey, 1868, (68-69) p. 7 Summ.
note by A. R. C. Selwyn on work of in New Brunswick in 1869, (69-70) p. 7 Summ.
collection of *Eophyton* from St. John, N.B., (70-71) p. 10.
work of 1870 in southern New Brunswick, summary, (70-71) p. 2.
paper by in 1863, recasting Dawson's rock groups in New Brunswick, (70-71) p. 23.
earlier labours of, in New Brunswick, with C. F. Hartt, (70-71) p. 22.
papers on geology of New Brunswick, published in 1865, reference to, (70-71) p. 27.
fossils added to Survey collections, (72-73) p. 2.
report on pre-Carboniferous rocks of Queens and Sunbury Cos., N.B., with Bailey and Ells, (75-76) pp. 350-368.
report on Charlotte Co., N.B., (76-77) pp. 321-350.
work in New Brunswick, 1876, (76-77) p. 4.
report on superficial geology of southern New Brunswick, (77-78) pp. 1-36 EE.
report on Upper Silurian and Kingston Groups of southern New Brunswick, (77-78) Part E.
summary of work for 1879, (78-79) p. 4.
report with résumé of geology of southern New Brunswick, with Bailey and Ells, (78-79) pp. 1-26 D.
- Matthews mine, South Crosby Tp., Ont., workings at, iron-ore mined, (71-72) p. 122.
- Maud Island, Skidegate Inlet, Q.C.Is., coal measures on, (72-73) p. 62.
conglomerates on, (72-73) p. 63.
thickness of conglomerates, (78-79) p. 65 B.

- Maud Island, Skidegate Inlet—*Cont.*
 passage beds between divisions C and D,
 Cretaceous, Q.C. Is., (78-79) p. 67 B.
 rocks of agglomerate series, (78-79) p. 69 B.
 new village of Gold Harbour Indians,
 (78-79) p. 168 B.
- Maud Island, Straits of Georgia, B.C., note on
 rock specimens from, (71-72) p. 99.
- Maugerville, N.B., mode of occurrence of bog
 iron-ore at, (82-84) pp. 46-47 GG.
- MAURELLE, — voyage with Bodega to vicinity
 of Queen Charlotte Islands, (78-79) p. 8 B.
- May Islands, Que., labradorite rocks in vicinity
 of, (66-69) E. p. 307, F. p. 339.
- Maynard's openings on Newcastle River, N.B.,
 section of measures at, (72-73) p. 202.
- Mayne Island, B.C., rocks of, (76-77) p. 185.
- Mazinaw Cliff, Barrie Tp., Ont., height of, thick-
 ness of reddish gneiss, (72-73) p. 144.
- Mazinaw Lake, Barrie Tp., Ont., analysis of
 Laurentian dolomite from, (1863) p. 593.
 red granites, (72-73) p. 142.
 gneiss series, (72-73) p. 144.
 analysis of limestone from, (72-73) p. 154.
- McAdam Brook, N.S., Lower Silurian rocks of,
 (76-77) p. 435.
- McAdam's farm, East Bay, N.S., Potsdam
 shales at, (76-77) p. 432.
- McAdam Junction, N.B., note on distribution
 of granite boulders, (82-84) p. 23 G.
 moraines in vicinity of, (82-84) p. 10 GG.
 description of kames in vicinity of, (82-84)
 p. 26 GG.
- McAdam Lake, N.S., Carboniferous rocks of,
 (76-77) p. 440.
 coal at, (76-77) p. 441.
 analysis of coal from, (76-77) p. 470.
- McArthur Creek, B.C., gold working of,
 (76-77) p. 135.
- McAskill Brook, Inverness Co., N.S., George
 River limestone, small cave, (82-84) p. 33 H.
- McAskill's farm, Cape Breton Co. N.S., felsites
 of road leading to, (77-78) p. 9 F.
- McAulay Brook, Mabou, N.S., pre-Cambrian
 rocks of, (82-84) p. 8 H.
- McAulay seam, Gowrie mines, N.S., position of,
 (72-73) p. 282.
 analyses of coal, (72-73) p. 290.
 sections of, (74-75) pp. 206, 208, 209.
- McBean's eight-foot seam, Pictou, N.S., dip of
 beds and horizon of seam, (66-69) E. p. 30,
 F. p. 33.
 test-pits, showing steepening of measures,
 (66-69) E. p. 31, F. p. 35.
 measures beneath, section of, (66-69)
 E. p. 31, F. p. 35.
 outcrops east and west, (66-69) E. p. 32,
 F. p. 36.
 possible extension, (66-69) E. p. 35, F. p. 39.
 compared with East River pit seam, (66-69)
 E. p. 46, F. p. 52.
 analysis of coal from three benches, (66-69)
 E. pp. 389-390, F. p. 431-432.
- McBean's six-foot seam, Pictou, N.S., section,
 (66-69) E. p. 29, F. p. 32.
 section below to 8-foot seam, (66-69) E. p. 30,
 F. p. 34.
 upthrow cutting of seams at the east, (66-69)
 E. p. 43, F. p. 48.
- McBean's trial pits on George McKay seam, Pic-
 tou, N.S., (66-69) E. p. 26, F. p. 29.
- McBryde's mine, Wakefield, Que., opening for
 mining garnets, (80-82) p. 12 GG.
- McCallum iron-ore bed, position of in Div. B,
 Hastings Series, (66-69) E. p. 151, F. p. 168.
- McCallum's Gulch, B.C., gold workings of,
 (76-77) p. 134.
- McCauley Island or Point, Guysborough Harbour,
 N.S., Carboniferous rocks at, (79-80)
 p. 60 F.
- McCauley's mills, Clarence Tp., Ont., Trenton
 Formation at, (1863) p. 169.
- M'Codrum Brook, N.S., Lower Silurian rocks
 of, (76-77) p. 437.
- McCONNELL, R. G., description of country north
 of Dunvegan, Atha., (79-80) pp. 58-61 B.
 description of country from forks of Smoky
 River to Ft. Assiniboine and Edmonton,
 (79-80) pp. 88-95 B.
 work of, in 1880, in Berthier, Maskinonge
 and St. Maurice Cos., Que., (79-80) p. 4.
 note on distribution of varieties of rocks
 between Assomption and St. Maurice
 Rivers, Que., (79-80) pp. 4-5.
 summary of field-work for 1881, (80-82) p. 3.
 summary of explorations for 1882, (80-82)
 p. 13.
 measurements made during 1882, (80-82)
 p. 14.
 fossils collected by, during 1882, (80-82) p. 24.
 surveys made by in, southern Alberta, (82-84)
 p. 6 C.
 description of country between Bow and
 Red Deer rivers, Alta., (82-84) pp. 34-35 C.
 sections through foot-hills showing attitude
 of beds, (82-84) diagrams facing p. 106 C.
 summary of field work for 1883 in vicinity
 of Cypress Hills, N.W.T., (82-84) pp. 4-5.
- McCormack Lake, Cape Breton Co., N.S., shales
 and conglomerate with felsite-breccia,
 (77-78) p. 13 F.
- McCormack road, from Barasois Pond, N.S.,
 shales with fossils in brook south of,
 (76-76) p. 392.
- McCrae's mill, London Settlement, Queens Co.,
 N.B., greenish schists, Huronian, (71-72)
 p. 74.
- McCuish Brook, N.S., Laurentian rocks of,
 (76-77) p. 424.
- McCuish manganese mine, N.S., workings, yield,
 composition of ore, (82-84) pp. 92-93 H.
- McCuish road, near Loch Lomond, Richmond
 Co., N.S., Millstone Grit, edge of forma-
 tion, (79-80) p. 34 F.
- McCuller Creek, B.C., gold-workings on, (76-77)
 p. 141.

- McCulloch Brook fault, Pictou coal-field, N.S., extent of throw, (66-69) E. p. 77, F. p. 85.
- McDame Creek, B.C., situation of, gold workings, yield for two seasons, (76-77) p. 139.
- McDonald, Angus, copper-ore on farm of, N.S., (76-77) p. 451.
- McDonald Brook, Strait of Canso, N.S., trap dykes cutting Devonian rocks, (79-80) p. 45 F.
- McDonald Brook, Middle River, N.S., pre-Cambrian rocks of, (82-84) p. 32 H.
- McDonald Creek or River, Nicola River, B.C., limestone of, reference to, (77-78) p. 164 B. description of trail, valley of, (77-78) p. 42 B.
- McDonald's mill-brook, North Mountain, Inverness, N.S., felsites, syenites and limestone of, (79-80) p. 23 F.
- McDonald's mill, Pictou, N.S., limestones near, strike of, (66-69) E. p. 39, F. p. 44.
- McDonald Mountain, Richmond Co., N.S., Carboniferous rocks of, (79-80) p. 67 F.
- McDonald's opening on Newcastle River, N.B., for coal, (72-73) p. 200.
- McDonald Pond, N.S., quartz and calc-spar veins of, (76-77) p. 414.
- McDonald Tp., Ont., crystalline diorite, (76-77) p. 210.
- McDougall, Mr., discoverer of gold in the quartz at McLean Brook, Middle River, (76-77) p. 452.
- McDougall Point, N.S., iron-ore at, (76-77) pp. 441, 449.
- McDougall Tp., Ont., mottled diorite and crystalline limestone, (76-77) pp. 199, 204-205.
- McEachern Brook, Mira Lake, N.S., felsites of, Lower Silurian rocks of, (77-78) p. 14 F.
- McEwen, Peter, record of boring for salt at Goderich, (74-75) p. 285.
- McFarlane's tavern, near Rockwood, Ont., section of Niagara Formation at, (1863) p. 331.
- McGill College, Montreal, trachyte dyke, examination and analysis of, (1863) pp. 659-660. description of superficial deposits in grounds at, (1863) p. 919.
- list of post-Tertiary fossils, (1863) pp. 926-928.
- McGillivray Tp., Ont., wells in, (63-66) p. 248.
- McGlashan's mills, Georgian Bay, Trenton Group exposed at, (1863) p. 193.
- McGregor coal, Acadia mines, N.S., gas trial at Pictou and New York, E. pp. 434-436, F. p. 484-487.
- McGregor Colliery, N.S., adit and slopes, (66-69) E. p. 95, F. p. 107.
- upper coal-seams, section of, (66-69) E. p. 96, F. p. 108.
- McGregor fault, Pictou coal-fields, (66-69) E. p. 27, F. p. 30.
- McGregor Mountain, Pictou, N.S., pre-Carboniferous rocks of, (66-69) E. p. 5, F. p. 5.
- McGregor seam, Acadia mines, N.S., (66-69) E. p. 69, F. p. 77.
- outcrops westward, (66-69) E. p. 76, F. p. 85.
- analysis of coals, (66-69) E. p. 376, F. p. 417.
- report by Hoyton, (66-69) E. p. 376, F. p. 417.
- McInnes, W., work by as assistant to W. Broad, 1882, (80-82) p. 20.
- work by in New Brunswick, 1883, (82-84) p. 13.
- work of 1883, assistant to L. W. Bailey, (82-84) p. 3 G.
- McInnes Glen Brook, North-east Margaree River, N.S., pre-Cambrian rocks of, (82-84) p. 25 H.
- McIntyre, W. H., donation to Museum, (82-84) p. 19.
- McIntyre Brook, North Mountain, N.S., coarse syenite, (79-80) p. 16 F.
- McIntyre Lake, Richmond Co., N.S., Carboniferous rocks of, (79-80) p. 68 F.
- Inverness Co., N.S., rocks near, (79-80) p. 72 F.
- McIntyre Tp., Ont., lead-ore from near Thunder Bay, (66-69) E. p. 358, F. p. 397.
- assay for silver of ore from lot 11, (78-79) p. 20 H.
- assay of rock from location 20, (80-82) p. 14 H.
- McIntyre Bay, Lake Nipigon, Ont., area of good land, (66-69) E. p. 355, F. p. 393.
- McIntyre's Bay, Q.C.Is., (now Masset) first visit of J. Douglas to, (78-79) p. 157 B.
- McIntyre River, Thunder Bay District, dark shales of, (66-69) E. p. 325, F. p. 359.
- McIntosh Brook, Pleasant Bay, N.S., pre-Cambrian rocks of, (82-84) p. 20 H.
- McIsaac Pond, Inverness Co., N.S., near Broad Cove, Coal Measures at, (82-84) p. 72 H.
- note on suitability of for harbour, cost of constructing, (82-84) p. 82 H.
- McKay, Mr., salt-works at south end of Lake Winnipegosis, (74-75) p. 69.
- McKay Brook, N.S., near Lake Ainslie, Lower Carboniferous conglomerate, (82-84) p. 44 H.
- McKay Cove, Cumsheewa Inlet, Q.C.Is., anchorage at, (78-79) p. 28 B.
- McKay Head, Bay of Fundy, N.B., conglomerates of Lower Carboniferous, (70-71) p. 210.
- McKay Island, Georgian Bay, Ont., gneiss of, (76-77) p. 201.
- McKay Lake, Pic River, Ont., granite on, trap dykes, (70-71) p. 331.
- dip and strike of rocks on, list of, (70-71) p. 331.
- length, surrounding country, canoe-routes to Long Lake and Powgutchawan Lake, (70-71) p. 332.
- height above Lake Superior, (70-71) p. 335.
- McKay's 4-foot coal-seam, Marsh Colliery, Pictou, N.S., (66-69) E. p. 16, F. p. 18.
- McKegan Brook, Coxheath Hills, N.S., rocks of upper part, (75-76) p. 372.
- conglomerates of lower part, (75-76) p. 396.

- McKELLAR, PETER, surveys by, of lakes on Thunder Cape, (66-69) E. p. 332, F. p. 367.
notes and plans of geology of Lake Nipigon by, (66-69) E. p. 341, F. p. 377.
surveys made by, in 1870, with R. Bell, (70-71) p. 323.
description of gold region of Shebandowan Lake, (72-73) p. 110.
- McKellar Island, Lake Superior, occurrence of silver, (66-69) E. p. 362, F. p. 400.
shaft sunk, (72-73) p. 108.
- McKellar Point, Lake Superior, calc-spar vein, work done on, (72-73) p. 108.
- McKENZIE, HUGH R., referred to, (76-77) pp. 402, 404.
- McKenzie Brook, Coxheath Hills, N.S., metamorphic rocks of (75-76) p. 373.
Middle River, N.S., sandstones and conglomerates of Lower Carboniferous, (82-84) p. 41 H
North Mountain, N.S., coarse jointed syenite, (79-80) p. 16 F.
crystalline limestone exposures, (79-80) p. 23 F.
- Sydney Harbour, N.S., Carboniferous conglomerate of, (75-76) p. 397.
Victoria Co., N.S., conglomerate of syenite debris, shales and trappean rocks, (82-84) pp. 9-10 H.
- McKenzie Creek, Denys Basin, Inverness Co., N.S., Carboniferous rocks of, gypsum, (79-80) pp. 101-102 F.
- McKenzie's mills, Ont., outcrop of dolomites of Onondaga Formation, (1863) p. 349.
- McKenzie's opening for coal near Newcastle River, N.B., (72-73) p. 202.
- McKenzie pit, Pictou coal-field, dip of seams, (66-69) E. p. 76, F. p. 84.
- McKenzie Point, Boulardrie Island, N.S., small seam of coal in Millstone Grit, (75-76) p. 411.
- McKenzie Tp., Ont., rocks in, (76-77) p. 205.
- McKinley's lot, North Burgess Tp., Ont., lot 3, R. VIII., broad vein of apatite, extent of workings, (70-71) p. 320.
see also Ritchie and Jackson location, (71-72) p. 125.
description of workings, apatite bed, (73-74) p. 119.
- McKinnon Brook, Ingonish River, Victoria Co., N.S., pre-Cambrian rocks of, crystalline limestone, (82-84) p. 16 H.
crystalline limestone of, (82-84) p. 36 H.
- McKinnon Harbour, N.S., gypsum deposits of, (76-77) p. 442.
- McKinnon Intervale, N.S., labradorite with magnetic iron-ore, occurrence of, (82-84) p. 92 H.
- McLaren's depot, Palmerston Tp., Ont., succession of rocks near, (74-75) p. 127.
- McLaren's mine, Portland East, Que., openings on apatite deposits, (82-84) p. 19 J.
- McLaughlin Bay, Bella Bella, B.C., granite rocks, (74-75) p. 76.
- McLaurin property, Templeton, Que., apatite on, (80-82) p. 11 GG.
- McLean's farm, Cape Breton Island, N.S., iron-ore at, (76-77) p. 450.
- McLean Brook, Pictou, N.S., upper measures, section of, (66-69) E. p. 37, F. p. 41.
- McLean Brook, Miramichi River, N.B., rocks at mouth of, (66-69) E. p. 193, F. p. 214.
- McLean Brook, North-east Margaree River, N.S., pre-Cambrian rocks of, (82-84) p. 24 II.
- McLean Brook, Middle River, N.S., red granite and schists. (82-84) p. 31 H.
gold of, (76-77) p. 452.
- McLean Brook, near Shenacadie, N.S., syenitic rocks of, (76-77) p. 408.
section of Lower Silurian rocks in, (76-77) p. 431.
- McLean's mill, Longs Creek, Queens Co., N.B., trappean beds overlaid by fossiliferous sandstone at, (72-73) p. 194.
- McLean's mill, Johnstown Tp., N.B., Carboniferous rocks at, (72-73) p. 214.
- McLean's mill, Lunn's Brook, N.B., conglomerates at bridge. (75-76) p. 365.
- McLean Point, Boulardrie Island, St. Andrew Channel, N.S., limestones, cone-in-cone concretions, (75-76) p. 392.
- McLean Point, Denys Basin, Inverness Co., N.S., exposures of gypsum, (79-80) p. 102 F.
- McLean Strait, Hudson Strait, situation of, description, (82-84) pp. 18-19 DD.
- McLellan Brook, Pictou, N.S., section of limestone south of Fraser's house, (66-69) E. p. 8, F. p. 9.
section of red sandstone brecciated rocks, (66-69) E. p. 9, F. p. 9.
section of Coal Measures on, (66-69) E. p. 15, F. p. 17.
Coal Measures from Marsh Brook to Black's mill-site, (66-69) E. p. 19, F. p. 21.
from Black's mill to Marsh Creek, position of strata, (66-69) E. p. 22, F. p. 24.
from Black's mill to East River, shales, mill-road fault, Patrick's oil-shale, syncline, (66-69) E. p. 22, F. p. 25.
oil-shale to fulling-mill bridge, measures on outcrops, (66-69) E. p. 23, F. p. 26.
section from oil-shale downwards, north outcrop, (66-69) E. p. 24, F. p. 27.
section of rocks exposed south of fulling-mill, (66-69) E. p. 51, F. p. 57.
- McLellan Mountain, Pictou, N.S., pre-Carboniferous rocks of, (66-69) E. p. 5, F. p. 5.
red conglomerates, felsites, (66-69) E. p. 6, F. p. 7.
Carboniferous limestone on south side, (66-69) E. p. 7, F. p. 8.
- McLennan Brook, Inverness Co., N.S., rocks of Carboniferous age, fossils, (79-80) pp. 99-100 F.

- McLennan Creek, B.C., gold on, (76-77) p. 141.
- McLennan's mine, Hull Tp., Que., yield of, (82-84) p. 17 L.
- McLEOD, MALCOLM, reference to book on Peace River, (75-76) p. 30.
- McLEOD, NEIL, referred to, (76-77) p. 402.
- McLeod's house, Boulardrie Island, N.S., iron-ore at, (76-77) pp. 445, 450.
- McLeod's bridge, River Inhabitants, N.S., the Carboniferous rocks of, (79-80) p. 70 F.
- McLeod Brook in Boisdale Hills, N.S., metamorphic rocks of, (75-76) p. 375.
- slates of, search for coal, (75-76) p. 391.
- McLeod Brook, Middle River, N.S., pre-Cambrian rocks of, (82-84) p. 32 H.
- small outlier of Carboniferous, (82-84) p. 41 H.
- coal seams worked on, (82-94) p. 74 H.
- McLeod Brook, Pictou, N.S., section of Millstone Grit, (66-69) E. p. 60, F. p. 66.
- strike of rocks, synclines, faults and horizon compared with East River, (66-69) E. p. 62, F. p. 69.
- McLeod Brook, St. Anne Bay, N.S., felsites and syenites of, (82-84) p. 15 H.
- McLeod Brook, West Bay, N.S., pre-Cambrian rocks in, (79-80) p. 15 F.
- McLeod fault, Pictou, N.S., probable throw, (66-69) E. p. 50, F. p. 56.
- interrupting Main seam, (66-69) E. p. 75, F. p. 83.
- McLeod Lake, B.C., length of, surrounding country, general description, (75-76) p. 65.
- to Parsnip River, journal of John Macoun, (75-76) p. 142.
- to Stuart Lake, B.C., description of country, (79-80) p. 31-33 B.
- elevation of, climate, Hudson's Bay Co.'s post at, (79-80) p. 33 B.
- general arrangement of beds, connection with Rocky Mountain strata, (79-80) p. 108 B.
- McLeod Lake, B.C., Peace River and Pine River, map of, scale 8 m. = 1 in., Sheet II, (79-80) accompanying Part B.
- McLeod Lake Mountain, B.C., rocks of, height, (75-76) p. 79.
- plants collected on, (75-76) p. 141.
- McLeod's mill-stream, near St. George, Charlotte Co., N.B., fossils of Mascarene Series, (70-71) p. 147.
- McLeods Mt., Nashwases Valley, York Co., N.B., rocks of, (66-69) E. p. 183, F. p. 202.
- McLeod Mt., Cape Breton Island, N.S., felsites and porphyry, (75-76) p. 376.
- McLeod's quarry, North Mountain, Inverness Co., N.S., marble and syenite, relations of, (79-80) p. 21 F.
- McLeod road, Doug's Valley, N.B., upper series of pre-Carboniferous rocks, pale argillite series, (70-71) p. 198.
- McLeod seam, Pictou, N.S., section of, by Mr. Lawther, (66-69) E. p. 50, F. p. 56.
- note on, (66-69) E. p. 75, F. p. 83.
- McLeod-Calgary trail, exposures in vicinity of, note on, (82-84) p. 78 C.
- McMaster Brook, near Queensville, N.S., pre-Cambrian rocks of, (79-80) p. 13 F.
- Carboniferous outlier on, (79-80) p. 97 F.
- McMaster's forge, Mabou, N.S., red porphyry of, (82-84) p. 8 H.
- McMILLAN, J., work done by, as assistant to H. Fletcher, (79-80) p. 2 F.
- date of appointment on staff, (80-82) p. 28.
- work by as assistant to H. Fletcher, 1883, (82-84) p. 15.
- McMillan Brook, Indian Brook, N.S., pre-Cambrian rocks of, (82-84) p. 14 H.
- McMillan Lake, Cape Breton Co., N.S., Lower Silurian rocks near, (77-78) p. 11 F.
- McMillan Lakes, Richmond Co., N.S., rocks on road to Rory McDonald's, (79-80) p. 70 F.
- McMillan Point, Strait of Canso, N.S., syenite exposure east of, (79-80) p. 10 F.
- Devonian rocks of, (79-80) p. 50 F.
- note on deposit of baryta, (79-80) p. 125 F.
- McMULLEN, JOHN, reference to supposed fossil (*Eozoön*) found at Grand Calumet, (1863) p. 48.
- McMullin road, Coxheath Hills, N.S., crystalline rocks, (75-76) p. 373.
- McNab Brook, Richmond Co., N.S., Laurentian rocks in, (76-77) p. 439.
- sandstones and argillites, (77-78) p. 21 F.
- Devonian rocks in, (77-78) p. 22 F.
- McNab Cove, Bras d'Or Lake, N.S., note on gypsum, (77-78) p. 30 F.
- McNab Lake, Richmond Co., N.S., soil surrounding, (77-78) p. 21 F.
- McNab mine, near Arnprior, Ont., hematite in limestone, (73-74) p. 212.
- analysis of hematite, (73-74) p. 226.
- McNab Tp., Ont., heavy-spar at mouth of Dochart River, (1863) p. 458.
- reference to hematite deposits, (1863) p. 509.
- former reports on, description of ore, (66-69) E. p. 259, F. p. 287.
- analysis of, (66-69) E. p. 260, F. p. 287.
- trough of limestones, (76-77) p. 248.
- limestones, same as those of Ramsay and Lanark, (76-77) p. 252.
- drift-sand in, (76-77) p. 256.
- analysis of limestone and dolomite from, (76-77) p. 486.
- McNAUGHTON, CAPT., collection of minerals from Buckingham, Que., (73-74) p. 144.
- McNaughton Brook, Cape Breton Island, N.S., Lower Carboniferous rocks, (82-84) p. 39 H.
- McNanley Brook, Musquash River, N.B., Kingston Group in, (70-71) p. 124.
- McNeil's farm, Benacadie Brook, N.S., talcose rocks of, (76-77) pp. 410-411.
- McNeil Brook, near Shenacadie, N.S., syenitic rocks of, (76-77) p. 408.
- Lower Silurian rocks of, (76-77) p. 432.
- Carboniferous rocks of, (76-77) p. 439.

- McNeil Brook, Cape Breton Co., N.S., fossils in limestones and argillites, (77-78) p. 12 F.
- McNeil's mill, near Shenacadie, N.S., iron-ore at, (76-77) pp. 441, 449.
- McNeil's quarry, Pirate Harbour, N.S., note on stone of, (79-80) p. 124 F.
- McOUAT, THOS., work of 1873, assistant to W. McOuat, (73-74) p. 161.
- McOUAT, W., assistant to J. Richardson, 1868, work by, (66-69) E. p. 119, F. p. 133.
summary of work by in 1869, from Lièvre to St. Maurice rivers, Que., (69-70) p. 8 Summ.
collection of fossils for museum, Lake St. John, Que., 1871, (71-72) p. 14.
detailed account of work during 1871, (71-72) pp. 115-116.
report on exploration from Lake St. John to Lake Mistassini, (71-72) pp. 115-119.
explorations during 1872, acknowledgments for aid, (72-73) pp. 112-115.
report on country between Lakes Temiscaming and Abitibi, (72-73) pp. 112-135.
outline of field-work of 1873 in Cumberland Co., N.S., assistants, area examined, streams and roads surveyed, (73-74) pp. 161-162.
report on portion of coal-field of Cumberland Co., N.S., (73-74) pp. 161-170.
date of death, brief note on former work, (75-76) p. 7.
- McPhail Brook, Inverness Co., N.S., crystalline-limestone series on, (79-80) p. 31 F.
- McPhedran Brook, Victoria Co., N.S., felsites of, (82-84) p. 7 H.
- McPHEE, HUGH, referred to, (76-77) p. 402.
- McPhee's farm, Indian Brook, N.S., Lower Silurian rocks at, (76-77) p. 430.
- McPhee's ferry, Sydney Harbour, N.S., section of strata on coast east of Lingan, (74-75) pp. 223-229.
- McPherson Brook, west of Glendale, N.S., syenite and diorite, contact with George River limestone, (79-80) p. 14 F.
section of crystalline-limestone series in, (79-80) pp. 25-26 F.
- McPherson Lake, Guysborough, N.S., note on character of rocks, (79-80) p. 48 F.
- McPherson's mills, Pictou Co., N.S., quartzite, (66-69) E. p. 6, F. p. 6.
- McQuarrie Brook, N.S., sandstone of Lower Carboniferous, (82-84) p. 43 H.
- McRae Brook, Middle River, Victoria Co., N.S., pre-Cambrian rocks of, (82-84) p. 10 H.
- McRae's mill, River Inhabitants, N.S., section of rocks at, (79-80) p. 92 F.
- McRury seam, South Head, Cow Bay, N.S., section of, (74-75) p. 209.
section on Glace Bay, (74-75) p. 215.
- McSween's farm, Cape Breton Island, N.S., iron-ore at, (76-77) p. 450.
- McSween Brook, St. Andrew Channel, N.S., Lower Silurian rocks, iron-ore, etc., (75-76) p. 392.
- McTavish Tp., Thunder Bay district, Ont., red and yellow marls in, (66-69) E. p. 332, F. p. 367.
- McVeigh lot, Bathurst, Ont., analysis of hornblende, (73-74) p. 201.
- McVicar Point, Passamaquoddy Bay, N.B., Mascarene Series, (70-71) p. 146.
- McVicar road, Cape Breton Island, N.S., Carboniferous limestone on, (76-77) p. 447.
- Meadow Brook, or Coal Brook, Clarendon Tp., N.B., porphyritic granite, (70-71) p. 193.
- Meadow Brook, Guysborough, N.S., sequence of strata exposed in, (79-80) p. 49 F.
- Meadow's road, Cape Breton Island, N.S., rocks of, (76-77) p. 417.
- Meaford, Ont., terraces of sand and gravel, (1863) p. 911.
- Mean daily temperature, at York Factory for 1878, (79-80) pp. 99 C.
at Moose Factory for 1878-80, (79-80) pp. 105-107 C.
- Mean temperatures in Peace River district, note on, (79-80) pp. 72-73 B.
- Meany's mine, Sebastopol Tp., Ont., note on apatite deposit, (82-84) p. 6 L.
- MEARES, JOHN, account of visit of Capt. Douglas to Queen Charlotte Islands in 1789, quoted, (78-79) pp. 157-160 B.
- Meat Cove, N.S., Lower Carboniferous sandstones and conglomerates, (82-84) p. 46 H.
- Meat Cove Brook, Bay St. Lawrence, N.S., felsite rocks of, (82-84) p. 20 H.
- Mechanics Institute, St. John, N.B., map of New Brunswick in MSS. by Dr. Gesner, possessed by, (70-71) p. 21.
- Mechanics Settlement, N.B., albertainite in metamorphic rock, (76-77) p. 390.
metamorphic sedimentary rocks associated with diorites, (77-78) p. 9 D.
diorites and syenites of, (77-78) p. 17 DD.
rocks of, schistose pre-Silurian, albertainite beds, (77-78) p. 24 DD.
conglomerate, Lower Carboniferous, containing albertainite at Haley farm, (78-79) p. 17 D.
examination and tests of infusorial-earth from Pollet River Lake, (79-80) pp. 3-6 H.
- Medals awarded to Canadians at Philadelphia, (76-77) p. 2.
- Medicinal value of mineral springs, note on, (1863) p. 564, and (63-66) p. 277.
- Medicine and medicine-men among Haida Indians, imitation, peculiarities, burial, etc., (78-79) pp. 122-123 B.
- Medicine Hat, Assa., note on coal seams at, section in banks above, (80-82) p. 9 B.
note on coal seams and preliminary workings of, (82-84) pp. 77-78 C.

- Medicine Hat, Assa.—*Cont.*
 diagrammatic section of coal-bearing strata at, (82-84) facing p. 78 C.
 coal seam at, estimated quantity of available coal, (82-84) p. 128 C.
 to Coal Creek, Bow River, diagrammatic section on map of Bow and Belly rivers, (82-84) accompanying Part C.
 analysis of lignite from, calorific power of, (82-84) pp. 11-13 M.
- Medicine-man's charm, Haida Indians, Plate XI., fig. 28, (78-79) p. 139 B.
- Medina Formation in New York, general note on description and distribution of, (1863) p. 310.
 in Quebec, south of Nicolet, (1863) p. 205.
 in western Ontario, description of exposures and fossils of, (1863) pp. 310-321.
 fossils found at St. Catherine's and in Niagara Tp., Ont., (1863) p. 312.
 mineral springs in Canada arising from, (1863) p. 561.
 on Manitoulin Island, Ont., red marls, (63-66) p. 174.
 rocks and fossils of, (63-66) p. 173.
 thickness, exposed on Lake Ontario, (1863) p. 312.
- Meductic Falls, St. John River, N.B., small area of Cambro-Silurian in granite area, (82-84) p. 20 G.
- Meduxnakeag River, N.B., rocks at mouth of, probable continuation of Oak Mountain beds, (82-84) p. 18 G.
 hummocks of till at mouth of, (82-84) p. 12 GG.
 kames of, (82-84) p. 22 GG.
- MEEK, F. B., fossils submitted to, (72-73) p. 5.
 views on age of Vancouver coal-bearing rocks, (72-73) p. 75.
 referred to, (76-77) p. 155.
- Meeting Point, Lake Nipigon, Ont., rocks of, (66-69) E. p. 347, F. p. 384.
 rocks eastward from, (66-69) E. p. 345, F. p. 381.
- Megalomus Canadensis*, Hall, wood-cut of, (1863) p. 338.
- Meganatawan River, Ont., crystalline limestone on, referred to, (1863) p. 46.
 laminated clays on, at elevation of 1,000 ft., Algoma sands, (1863) p. 907.
 gneiss of, (76-77) p. 201.
 dyke of dark breccia, (76-77) p. 202.
 band of limestone crosses at Maple Island, (76-77) p. 205.
 gneiss and limestone of valley, (76-77) p. 276.
- Megantic Co., Que.:—
for general geology see Part I., p. 9.
- Megantic Lake, Que., height and area, (1863) p. 4.
 rocks of Quebec Group, intrusive dykes and granites, (1863) p. 431.
- Megantic Mountain, Que., intrusive granite of, (1863) p. 431.
- Melaphyre, considered as an indigenous rock, (1863) p. 651.
 eruptive origin shown, (63-66) p. 136.
 argument for use of name in Portage Lake district, Michigan, (63-66) p. 158.
 objection to name by T. S. Hunt, (63-66) p. 160.
 at Chippewa Falls, and Pointe aux Mines, Ont., (63-66) p. 121.
 area occupied by, east of Lake Superior, (63-66) p. 135.
 at Gros Cap, Lake Superior, (63-66) p. 136.
 at north-west corner Michipicoten Island, Ont., (63-66) p. 137.
 compact variety on north shore of Michipicoten Island, (63-66) p. 139.
 specific gravity of, from Michipicoten Island, (63-66) p. 139.
 porphyritic variety on north shore Michipicoten Island, (63-66) p. 139.
- Melbourne and Potton anticline, note on, (1863) p. 248.
- Melbourne quarry, Melbourne Tp., Que., roofing slates, (63-66) p. 44.
 statistics for 1869-71, (71-72) p. 148.
- Melbourne, Que., microscopic structure of serpentine from, (80-82) p. 19 A.
- Melbourne Tp., Que., rocks resembling epidosite, (1863) p. 497.
 deposits of chromic-iron in, (1863) pp. 504, 749.
 note on copper-ore localities, (1863) p. 722.
 copper localities referred to, (63-66) pp. 38, 310.
 serpentine bands in, (1863) p. 824.
 slate quarry, character of slate, prices realized, (1863) p. 830.
 roofing slates and quarry for, (63-66) p. 44.
 analysis of chromiferous serpentine, (74-75) p. 304.
 description and analysis of magnesian ophiolite, (74-75) p. 309.
 microscopic structure of rocks from lot 6, R. VIII., (80-82) p. 23 A.
- Meldrum's farm, Fraser River, B.C., character of country, flora of, (75-76) p. 235.
- Melford Creek, Guysborough Co., N.S., Devonian rocks of, and on coast near, (79-80) p. 41 F.
- Melosira varians* in lignite rocks of Blackwater River, B.C., (75-76) p. 256.
- Melvorn Square, N.S., occurrence of natrolite near, (82-84) p. 25 L.
- Memphremagog Lake, Que., height and area, (1863) p. 4.
 Silurian and Devonian rocks of, Quebec Group on, (1863) p. 251.
 limestones of upper series, marbles, (1863) p. 432.
 Gaspé Series, north from northern end of, fossils of, (1863) p. 435.
 chrome iron-ore deposits, (1863) p. 504.
 galena locality on shores of, (1863) p. 691.
 limestone burned at, (1863) p. 803.

- Memphremagog Lake, Que.—*Cont.*
 note on material for whetstones found on,
 (1863) p. 809.
 rocks of, suitable for flagstones, (1863)
 p. 828.
 terrace of clay at, (1863) p. 929.
 contact of Silurian rocks with granite,
 (80-82) p. 5 A.
- Memramcook, N.B., horizontality of beds at,
 (76-77) p. 379.
- Memramcook Corner, N.B., note on copper-ore
 deposit on Beech Hill road, (80-82) p. 23 D.
- Menevian or Acadian Group, fossils of, (76-77)
 p. 434.
- Menocephalus globosus*, Billings, wood-cuts of
 head, (1863) p. 237.
- Menocephalus Sedgwicki*, Billings, wood-cut of
 glabella, (1863) p. 237.
- Menominee, Mich., analysis of Huronian green-
 stone, (1863) p. 595.
- Menzies Bay, B.C., deposit of iron-ore reported
 near, (73-74) p. 101.
- Menzies Lake, N.B., Laurentian rocks of, (70-71)
 p. 43.
- Menzies' spruce, in British Columbia, note on
 characters and distribution, (79-80)
 pp. 171-172 B.
- Mer Bleue, Russell Co., Ont., note on peat de-
 posits of, extent of, (1863) p. 780.
- Mercury, in association with precious metals in
 Canada, native copper and amalgam
 with gold, (1863) p. 518.
 occurrence of, in gravels of Chaudière
 River, Que., noted, (1863) p. 518.
 in British Columbia, general note on, (76-77)
 p. 133.
- Meredith location, Mamainse, Ont., description
 of veins, early French mining by explor-
 ers, evidence of, (1863) p. 701.
- Merigomish, N.S., note by T. S. Hunt on spathic
 iron-ores of, (66-69) E. p. 442, F. p. 494.
- Merigomish road, N.S., surveyed by W. B.
 Leather, (66-69) E. p. 5, F. p. 5.
- Merrickville, Ont., exposure of Calciferous at,
 (1863) p. 118.
- Mersea well, near Leamington, Ont., (63-66)
 p. 249.
- Mersereau Brook, N.B., coal-seams reported on
 head-waters of, (72-73) p. 219.
 outcrop of surface coal-seam, (78-79) p. 20 D.
- Mesnard vein, Pewabic mine, Mich., description,
 (63-66) p. 155.
- Mesolite, note on mode of occurrence in amygd-
 aloid of Lake Superior, (1863) p. 71.
- Mesozoic deposits of north-western Manitoba,
 by J. W. Spencer, (74-75) pp. 64-67.
- Mesozoic fossils, from British Columbia, notes
 on by E. Billings, (72-73) pp. 71-75.
 from Porphyritic Series of British Columbia,
 (76-77) p. 61.
 publication of Part I., Vol. I., of report on,
 by J. F. Whiteaves, (76-77) p. 5.
- Mesozoic rocks, of Fraser and François lakes,
 B.C., (76-77) p. 83
 representatives of, on west coast and in
 British Columbia, (76-77) p. 92.
 of southern British Columbia, (77-78)
 pp. 105-112 B.
 of Salmon River valley, B.C., general char-
 acters of, (76-77) p. 31.
 of Skeena River, B.C., general relations of,
 (79-80) p. 103 B.
 of Grand Manan Island, short note describ-
 ing, (70-71) p. 109.
 of Peace River, (75-76) pp. 72-73.
- Mesozoic volcanic rocks, of coast of British
 Columbia, relations of, (76-77) p. 91.
 and Tertiary volcanic rocks, difficulty in
 separating, in British Columbia, (76-77)
 p. 92.
- Metabetchouan River, Lake St. John, Que.,
 Utica slate resting against Trenton lime-
 stone, west of, (82-84) p. 13 D.
- Metabetchouan Tp., Lake St. John, Que., de-
 posit of crystalline limestone in, (82-84)
 p. 10 D.
 Trenton limestone on Koushpagamish
 River, and in Range V., (82-84) pp. 14-15 D.
- Metallic deposits, of south shore of Lake
 Superior, (1863) p. 699.
 theory of in connection with copper-ores,
 (1863) p. 735.
- Metallic ores of Southern New Brunswick,
 (70-71) p. 222-229.
- Metallic sulphurets, in rocks, origin of, (1863)
 p. 574.
- Metaliferous deposits of North River of St.
 Annes, N.S., (76-77) p. 452.
- Metaliferous lodes of upper part of Upper Cop-
 per-bearing rocks, general note on, (1863)
 pp. 74-75.
- Metals and their ores in Ontario and Quebec,
 (1863) pp. 672-745.
- Metamorphic rocks, general description of,
 (1863) pp. 562-566.
 of Cape Maquereau, Bay of Chaleurs, prob-
 ably Silurian in age, (1863) p. 272.
 of New Carlisle, Bay of Chaleurs, (1863)
 p. 446.
 of Shickshock Mountains, Que., (82-84)
 pp. 16-19 F.
 of Southern New Brunswick, note on age
 of, (78-79) p. 10 D.
 of Sydney Harbour, N.S., (73-74) p. 173.
- Metamorphic slates, York Co., N.B., fossils of
 Gaspé limestones, (66-69) E. p. 190,
 F. p. 211.
- Metamorphism, general discussion on methods
 of, (1863) pp. 580-584.
 of sedimentary rocks in eastern Quebec,
 (80-82) p. 5 A.
 of rocks of eastern Quebec in post-Devonian
 time, (80-82) p. 6 A.
- Matapedia Lake and River, *see* Lake Matapedia
 and Matapedia Lake and River.

- Metcalfe Tp., Middlesex, Ont., record of wells, (63-66) p. 245.
- Metch-ke-wed-enong Village, Manitoulin Island, Ont., fossils from, (63-66) p. 172.
- Meteorological observation, on coast of British Columbia. taken in 1878, (78-79) pp. 224-232 B.
- in Skeena Valley, B.C., note on mean temperatures, (79-80) p. 19 B.
- in northern British Columbia and on Peace River, summer of 1879, (79-80) pp. 148-156 B.
- at York and Moose Factories for 1876 and 1878, (79-80) pp. 94-113 C.
- Meteoric iron from Madoc, description of, (1863) p. 508.
- Metgermet River, Que., gold-bearing drift on, (1863) p. 733.
- Methuen Tp., Ont., map on scale 4 m. = 1 in., E. p. 143, F. p. 159.
- galena locality, (66-69) E. p. 163, F. p. 181.
- Methy Lake, Atha., character of vegetation, grain grown, (75-76) p. 175.
- Methy River, Atha., extensive marshes, character of stream, plants seen, (75-76) p. 176.
- Methy Portage, Atha., Silurian rocks reported by Sir John Richardson, (73-74) p. 52.
- fall between Methy Lake and Clearwater River, drift deposits on (75-76) p. 94.
- vegetation, fall between Methy Lake and Clearwater River, (75-76) p. 175.
- height of river-banks, character of rocks, (82-84) p. 27 CC.
- quartzite in drift at, (82-84) p. 28 CC.
- Métis, Que., lower strata of Silly division exposed on coast to, (1863) p. 260.
- enclosed masses in conglomerate band, (1863) p. 261.
- Primordial and Silurian rocks. (74-75) p. 8.
- Métis Lakes, Que., Gaspé Series exposed on, (1863) p. 417.
- deposit of marl noted in lower lake, (1863) p. 766.
- Métis River, Que., Gaspé Series on, (1863) p. 416.
- marine shells in sands, terraces on, (1863) p. 921.
- Metlakatla, B.C., land under cultivation, (74-75) p. 75.
- mission at, (79-80) p. 4 B.
- terraces along coast near, (78-79) p. 95 B.
- note on schistose rocks of, (79-80) p. 100 B.
- Metlakatla Bay, B.C., rocks at, (74-75) p. 80.
- Metoptoma Erato*, Billings, wood-cuts of, (1863) p. 145.
- Metoptoma Niobe*, Billings, wood-cut of specimen from Phillipsburgh, Que., (1863) p. 276.
- Metoptoma Orithyia*, Billings, wood-cut of specimens from Phillipsburgh, Que., (1863) p. 276.
- Meyers Lake iron-ore deposits. south shore. South Sherbrooke, Ont., (74-75) p. 118.
- geological horizon, (74-75) p. 154.
- Meyers Lake band of crystalline limestone, characters and distribution, (73-74) p. 106.
- part of group V. Lanark, (74-75) p. 151.
- Meyers or Christies Lake mine, South Sherbrooke, Ont., analysis of iron-ore, (72-73) p. 175.
- shipment of ore. (72-73) pp. 175-176.
- note on mine. (76-77) p. 296.
- Mica, general description, note on varieties of, with analyses, (1863) pp. 493-495.
- general note on occurrence of in Laurentian, (1863) p. 26.
- occurring with hematite, note on, (73-74) p. 222.
- with magnetite, note on, (73-74) p. 203.
- uses of, market price of, (1863) p. 795.
- Mica, statistics for Ontario, 1863-71, (71-72) p. 147.
- Mica, notes on from the following localities:—
- in Albert Co., N.B., (70-71) p. 239.
- near Ashe Inlet, at Kinnirook, reported by Eskimos, (82-84) p. 24 DD.
- on Benacadie Brook, N.S., golden variety, (76-77) p. 411.
- of Burgess and North Elmsley Tps., Ont., by Gordon Broome, (70-71) pp. 320-321.
- in Buckingham Tp., Que, mode of occurrence and geological horizon, (74-75) p. 165.
- in Chateau Bay, Strait of Belle Isle, (82-84) p. 10 DD.
- on Christmas road, N.S., silvery, (76-77) p. 410.
- at Dogs Cove, Roberts Bay, in limestone of, (76-77) p. 207.
- at Fords Harbour, Labrador, reported near, (82-84) p. 12 DD.
- on French Vale and Bourinot roads, N.S., golden, (76-77) p. 426.
- at Grenville, Que., (1863) p. 795.
- in Hagerman Tp., Ont., (76-77) p. 204.
- on Indian Brook, N.S., golden, (76-77) p. 412.
- occurrences in Kings, St. John and Albert Cos., N.B., (70-71) p. 239.
- on Georgian Bay, Ont., vicinity of Long Inlet, (76-77) p. 198.
- in McKenzie Tp., Ont., (76-77) pp. 205-206.
- of Moose Deer Point, Georgian Bay, Ont., (76-77) p. 198.
- in North Burgess Tp., Ont., (1863) p. 795.
- on lot 16, R. IX., description of workings, d-facts in, (70-71) p. 321.
- deposits of in, (72-73) p. 178.
- large crystals of black variety, (73-74) p. 115.
- mode of occurrence and horizon of, (74-75) p. 165.
- in Ottawa Co., Que., in pyroxene of, (77-78) p. 19 G.
- in Palmerston Tp., Ont., Sheppard's mica mine, note on, (82-84) p. 4 L.
- in vicinity of Partridge Bay, Ont., (76-77) p. 197.
- on Root River, Ont., Rankin copper-mine, (76-77) p. 212.
- in Saguenay region, Que., large crystals obtained in, localities for, (82-84) p. 9 D.

Mica, notes on—*Cont.*
 on Shuswap Lake, B.C., occurrence of, (77-78) p. 162.
 in Templeton, Que., in pits at Murphy's mine. (80-82) p. 11 GG.
 in Washaback Hills, N.S., silvery, (76-77) p. 406.
 Mica, magnesian, general description of, (1863) p. 494.
 reference to analyses of, (1863) p. 795.
 Mica Bay, Lake Superior, copper-ores, workings undertaken, (1863) p. 702.
 rocks of, (76-77) p. 216.
 Mica-schist, at Cap Choyé, Lake Superior, (76-77) p. 218.
 grading to crystalline limestones in Hastings Co., Ont., (63-66) p. 93.
 of North Hastings Co., Ont., (63-66) p. 93.
 in Levant Tp., Ont., (76-77) pp. 250, 252.
 horizon of silvery variety, (76-77) p. 253.
 on Lake Maria, Nipigon River, Ont., (66-69) E. p. 339, F. p. 374.
 of McKays Lake and upper part of Pic River, Ont., (70-71) p. 329.
 of Parry Island, Ont., (76-77) p. 199.
 of Shibaishkong Island, Ont., (76-77) p. 200.
 Mica-schist belt, in pre-Silurian area in Hammond Tp., N.B., (77-78) p. 13 DD.
 Mica-schist group, of Laurentian of Lanark Co., Ont., (74-75) pp. 124-130.
 in Palmerston Tp., Frontenac, Ont., (74-75) p. 127.
 similarity to Addington rocks, probable age, (74-75) pp. 128-129.
 Mica-slates, of Eastern Townships, Que., distribution of, (1863) p. 433.
 for flagging, notes on, Lake Temiscaming slates, (1863) p. 828.
 in the Laurentian rocks, rarity of, (1863) p. 587.
 in Palaeozoic rocks of eastern area, analyses, (1863) p. 600.
 on St. Croix River, N.B., (76-77) p. 331.
 Micaceous and chloritic or schistose group of pre-Silurian in Kings and St. John Cos., N.B., (77-78) pp. 17-27 DD.
 Micaceous gneiss, opposite Leach Island, Lake Superior, (76-77) p. 218.
 Micaceous iron-ore from Gairloch Mt., Middle River, N.S., analysis of, (79-80) p. 14 H.
 from Stewart Pond, Guysborough Co., N.S., analysis of, (79-80) p. 14 H.
 Micaceous sandstones of Cambro-Silurian of North Lake, Carleton Co., N.B., (82-84) p. 14 G.
 Micaceous schists, of Montreal River, Ont., (76-77) p. 217.
 MICHEL, A., work by, (63-66) p. 7.
 report on gold regions of Quebec, (63-66) pp. 53-68.
 report on gold of Chaudière Valley, (63-66) pp. 62-66.
 report on gold of St. Francis River, Que., (63-66) pp. 62-66.

MICHEL, A.—*Cont.*
 report on quartz veins, Chaudière and St. Francis rivers, (63-66) p. 69-76.
 examination of Phoenix and Richardson mines, Hastings, Ont., (66-69) E. p. 167, F. p. 185.
 localities for gold in Hastings, reported by, (66-69) E. p. 169, F. p. 188.
 summary of work in Nova Scotia, 1867-68, (68-69) p. 4 Summ.
 on importance of searching beneath drift for gold in Nova Scotia, (70-71) p. 274.
 Michelet and Thibault, superphosphate works of, Villette, Paris, process employed at, (77-78) pp. 12-13 H.
Michelinia convexa, D'Orbigny, wood-cut of, (1863) p. 364.
 Michigan, general physical description of, (1863) pp. 16-17.
 iron mines of, banded ores, (63-66) p. 130.
 report on mines of Portage Lake, by Thos. Macfarlane, (63-66) pp. 149-164.
 rocks of, (63-66) p. 243.
 salt formations of, (63-66) pp. 263-264.
 fossiliferous beds on south side of St. Mary River, (66-69) E. p. 475, F. p. 529.
 Galena Formation in, (76-77) p. 239.
 Michipicoten Lake Superior, rocks of coast near, (76-77) pp. 219-220.
 Hudson's Bay Co.'s post, situation of, (75-76) p. 332.
 view of Hudson's Bay Co.'s post, illustration, (80-82) facing p. 1 C.
 analysis of magnetic iron-ore from Pickerel River, near, (78-79) p. 15 H.
 Michipicoten Bay, Lake Superior, note on copper-ores and copper locations, (1863) p. 703.
 junction of Huronian and Laurentian on, (63-66) pp. 127-129.
 Michipicoten Harbour, fragmental rocks near, (63-66) pp. 118.
 diorite dykes near, (63-66) p. 121.
 iron-ores of Gros Cap, (63-66) p. 130.
 Michipicoten Island, Ont., description of copper-bearing rocks of, thickness of formation at, (1863) pp. 81-82.
 analcine with native copper. (1863) p. 481.
 agates of, reference to, (1863) p. 500.
 note on arsenical ores at, (1-63) p. 505.
 description of mineral veins, workings, native copper, silver and nickel ores, (1863) p. 703.
 Fletcher's mine, description of workings, (1863) p. 704.
 note on nickel-ores, analysis of ore, (1863) p. 737.
 Upper Copper-bearing Series, (63-66) pp. 137-143.
 succession of beds on north-west shore, (63-66) pp. 137-139.
 succession of beds on south shore, (63-66) p. 139.
 islands on south shore, rocks of, (63-66) p. 142.

- Michipicoten Island, Ont.—*Cont.*
 succession of beds on east shore, (63-66)
 p. 142.
 state of mining operations at, (80-82) p. 17.
- Michipicoten River, Lake Superior, gneissic
 rocks near, referred to, (1863) p. 48.
- Huronian rocks at mouth of, noted, (1863)
 p. 63.
- lakes and portages to height-of-land, (75-76)
 pp. 331-332.
- geological features to height-of-land, (75-76)
 pp. 335-336.
- geological description, Huronian rocks,
 (75-76) pp. 335-336.
- exploration of coast near, in 1876, (76-77)
 p. 194.
- rocks of coast near, (76-77) p. 220.
- to Batchewana Bay, Lake Superior, geology
 of, (76-77) pp. 213-220.
- summary of surveys made by R. Bell in
 1881, (80-82) p. 4.
- map of, showing geology, on map of Basin
 of Moose River, accompanying, (80-82)
- illustration showing valley of, from mouth,
 (80-82) facing p. 1 C.
- additional notes on geology of, outline of
 Huronian areas, granite bosses, (80-82)
 p. 3 C.
- illustration showing granite hill on, (80-82)
 facing p. 3 C.
- note on superficial geology of, (80-82) p. 8 C.
- list of plants collected by R. Bell on, (80-82)
 pp. 19-28 C.
- list of coleoptera collected by R. Bell in
 1881, (80-82) p. 32 C.
- Microscopic structure of some of the rocks of
 Quebec Group, notes by F. D. Adams,
 (80-82) pp. 8-23 A.
- Microscopical description of limestone from
 South Thompson River, B.C., (77-78)
 p. 80 B.
- of olivine rock from Kamloops, B.C., (77-78)
 p. 41 G.
- of felspathic sandstones, (76-77) p. 74.
- of infusorial earth from Pollet River, N.B.,
 (78-79) p. 5 H.
- of obsidian, from near Il-ga-chuz Mt., B.C.,
 (76-77) p. 78.
- of porphyritic rocks from British Columbia,
 (76-77) pp. 66-67.
- Microscopical sections by Mr. Weston, of coprol-
 ites from Macintosh Brook, N.S., (76-77)
 p. 433.
- of diorite and serpentine from Mount Albert,
 Que., descriptions and diagrams, (77-78)
 p. 41 G.
- Microscopical study of rocks, work by J. B. Har-
 rington on, (74-75) p. 14.
- Micromus hirtus*, referred to, (76-77) p. 463.
- Middle Aspy River, Aspy Bay, N.S., gneiss rocks
 of, (82-84) p. 19 H.
- Middle Branch, Pine River, B.C., direction of
 valley and size of stream, mouth of, (79-80)
 pp. 41-42 B.
- Middle Carboniferous rocks of eastern New
 Brunswick area, note on thickness, and
 description of localities, (79-80) pp. 4-7 D.
 of Kent and Northumberland Cos., N.B.,
 (80-82) pp. 3-6 D.
- of southern New Brunswick, a subdivision
 not well defined, general aspect of, coal
 in, (78-79) pp. 19-21 D.
- thickness of in New Brunswick, (72-73)
 pp. 221-223.
- at Dunsinane, N.B., holding fossils, (72-73)
 p. 216.
- Middle and Upper Carboniferous of central New
 Brunswick, general description of, (72-73)
 pp. 195-197.
- thickness of, (72-73) pp. 221-225.
- details in Queens and Sunbury Cos.,
 (72-73) pp. 197-221.
- Middle coal-formation, of New Brunswick, sim-
 ilarity of to Millstone Grit of Nova Scotia,
 (72-73) p. 196.
- in Cumberland Co., N.S., character of rocks,
 thickness, (73-74) p. 170.
- Middle conglomerate, Comox, B.C., coal-bear-
 ing rocks of, (72-73) pp. 48-49.
- Middle Coulée, Milk River Ridge, Alta., rocks
 of, (82-84) p. 51 C.
- Middle Cove, Hornby Island, B.C., summit of
 Middle Conglomerate, (72-73) p. 49.
- Middle Fork, Old Man River, Alta., section of
 coal-seams on, (80-82) pp. 18-19 B.
- general description of, (82-84) p. 23 C.
- gap in Palæozoic rocks, rocks of the dis-
 turbed belt, coal-seams, section of rocks,
 (82-84) pp. 100-102 C.
- diagrammatic section of rocks on, east of
 crossing of trail from Crow Nest Pass,
 (82-84) p. 100 C.
- diagram showing contorted shales on,
 (82-84) p. 102 C.
- Middle Landing Falls, Nipisiguit River, N.B.,
 pyrite from, examined for gold and silver,
 (78-79) p. 18 H.
- character of Cambro-Silurian rocks at,
 (79-80) p. 26 D.
- Middle Lake, West Homathco River, B.C., por-
 phyrite rocks from, (75-76) p. 251.
- Middle ridge or kame in Lancaster Tp., N.B.,
 structure of, (77-78) p. 16 EE.
- Middle River, Nipisiguit River, N.B., note on
 granite area on, (1863) p. 451.
- exposures of Cambro-Silurian on, (79-80)
 p. 26 D.
- Middle River, Port Daniel, Que., exposures of
 bituminous graptolitic shales, (1863)
 p. 445.
- Middle River, Pictou, N.S., section at Alma
 Mills bridge, (66-69) E. p. 64, F. p. 71.
- Middle River, Victoria Co., N.S., rocks on road
 from Hunters Mountain to, (76-77) p. 425.
- rocks of, (76-77) pp. 452-453.
- copper-ore of, (76-77) p. 452.
- gold of, (76-77) p. 452.
- pre-Cambrian rocks of, (82-84) pp. 8-9 H.

- Middle River, Victoria Co., N.S.—*Cont.*
 analysis of micaceous iron-ore from Gairloch Mt., (79-80) p. 14 H.
 pre-Cambrian rocks of several branches of, with sections, (82-84) pp. 28-29 H.
 crystalline limestone of pre-Cambrian rocks of, (82-84) pp. 34-36 H.
 section of limestone and quartzite in pre-Cambrian rocks of, (82-84) pp. 35-36 H.
 conglomerates and sandstones of Lower Carboniferous, (82-84) p. 41 H.
 the Lower Carboniferous limestones of valley of, (82-84) p. 50 H.
 description of barrens of, (82-84) p. 77 H.
 titaniferous iron-sand referred to, (82-84) p. 92 H.
 general note on gold workings on, largest nuggets found, (82-84) p. 97 H.
- Middle River Map-sheet, N.S., issued 1884, scale 1 m. = 1 in.
- Middle River to Hudson's Hope, Peace River, distance, Horetzky's description of country, (75-76) pp. 49-50.
- Middle shales, Comox, B.C., sections, thickness and fossils of, (72-73) pp. 47-48.
- Middle Silurian Formations, escarpment of in western Ontario, general description, (1863) pp. 13-15.
 description of divisions and characters of fossil remains in Canada, (1863) pp. 29-344.
- Middle syncline, of east side East River, N.S., continuation of Albion syncline, (66-69) E. p. 73, F. p. 81.
- Middlesex Co., Ont.:—
for general geology see Part I., p. 14.
- Middlesex, Vt., analysis of talcose shale from, (1863) p. 602.
- Middleton bridge, Dumfries Tp., Ont., exposure of upper beds of the Guelph Formation, fossils found, (1863) p. 33*.
- Middleton Tp., Ont., boulders of Devonian limestone and Laurentian gneiss found in, (1863) p. 894.
 limonite deposits of, note on, (1863) p. 683.
- Middletown, N.S., exposures of Devonian rocks on road to Goose Harbour Lakes, (79-80) p. 45 F.
- Middleville, Ont., ridge of tremolitic dolomite in, (74-75) p. 147.
 black massive hornblende rocks of, (74-75) p. 150.
- Migration of Haida Indians from parts of Queen Charlotte Islands, evidences of, (78-79) p. 104 B.
- Mijicouaja Lake, Ont., Laurentian rocks of, (72-73) p. 131.
- Mikes Point, Grand Manan Island, rocks exposed on shore, (70-71) p. 107.
- Mild climate of West Coast caused by Japanese ocean-current, (79-80) p. 8 B.
- Mile-end quarries, Montreal, superficial deposits at, (1863) p. 919.
 list of post-Tertiary fossils of, (1863) pp. 926-928.
- Militia Island, West Bay, N.S., possible deposits of gypsum, (79-80) p. 102 F.
- Milk River, Alta., illustration showing weathered sandstone rocks of, (80-82) frontispiece, Part B.
 and country in vicinity, general description of, (82-84) pp. 13-18 C.
 sandstone outcrops in vicinity of Verdigris Coulee, (82-84) p. 40 C.
 Belly River Series and lower shales, near Pakowki Coulee, section of, (82-84) pp. 43-45 C.
 thickness of upper portion of Belly River Series, (82-84) p. 116 C.
 relation of Belly River rocks and Pierre shales on, (82-84) pp. 120-121 C.
 thickness of Belly River Series on, discussion on, (82-84) p. 124 C.
 list of coal outcrops in vicinity, with thickness of coal, (82-84) p. 130 C.
- Milk River Ridge, Alta., note on coal-seams of, (80-82) p. 11 B.
 general description of, (82-84) p. 48 C.
 geology of, (82-84) pp. 48-53 C.
 relation of Belly River Series and Pierre shales, (82-84) p. 123 C.
 analysis and calorific power of lignite from north side of, (82-84) p. 25 M.
- Milk River valley and vicinity of Boundary Line, section on, geology of, (82-84) pp. 36-48 C.
- Milkish Passage, Kenebecasis Bay, N.B., succession of Lower Carboniferous, (70-71) p. 207.
- Milky quartz in argillites at head of Mira Lake, N.S., (77-78) p. 14 F.
- Mill Brook, Watson Creek, N.S., conglomerates of lower part of, (75-76) p. 396.
- Mill Brook to Long Beach, Cow Bay, N.S., diagrammatic section of measures, (74-75) facing p. 266.
 to Black Brook, Cow Bay, N.S., diagrammatic section of measures, (74-75) facing p. 266.
- Mill Brook, Nanaimo, B.C., outcrop of New-castle seam, (76-77) p. 177.
- Mill Brook, Temiscouata Lake, Quebec, slates of Gaspé Series, (1863) p. 420.
- Mill Cove, Charlotte Co., N.B., fault in Silurian rocks, (70-71) p. 126.
- Mill Cove, Fry Island, N.B., peat-deposits of, (77-78) p. 32 EE.
- Mill Creek, Alta., sections of coal seams on, (80-82) p. 19 B.
 analysis of clay-ironstone from, (80-82) p. 12 H.
 general description of, (82-84) p. 23 C.
 coal-seams on, sections of shale bands, (82-84) pp. 98-99 C.
 terraces in valley of, (82-84) p. 146 C.

- Mill Creek, Alta.—*Cont.*
 analysis of clay-ironstone from, (82-84) p. 169 C.
 analysis and calorific power of coal from, (82-84) p. 40 M.
- Mill Lake, McDougall Tp., Ont., crystalline limestone of, (76-77) p. 205.
- Mill-race seam, Marsh Colliery, Pictou, N.S., thickness of, (66-69) E. p. 17, F. p. 19.
 trial pits on, (66-69) E. p. 27, F. p. 30.
- Mill-road fault, Pictou coal-fields, N.S., (66-69) E. p. 22, F. p. 24.
 northward continuation of, (66-69) E. p. 43, F. p. 49.
 beds north of, showing anticlines and synclines, (66-69) E. p. 44, F. p. 49.
 displacement at, bearing of, (66-69) E. p. 49, F. p. 55.
- Millbank Sound, coast of British Columbia, rocks of islands in, (74-75) p. 76.
 to Quatsino Sound, meteorological observations taken in 1878, (78-79) pp. 230-232 B.
- Mille Isles to Shefford Mountain, Que., coloured section, (1863) Atlas.
- Mille Isles Seignory, Que., limestone bands of, referred to, (1864) p. 44.
- Mille Isles Tp., Que., peat deposits of, (1863) p. 781.
- Mille Lacs band of Huronian, breadth of gold-bearing veins, (72-73) p. 107.
- Mille Roches, St. Lawrence River, Chazy Formation near, (1863) p. 127.
- MILLER, J. G., openings made by in Templeton Mining district, (76-77) p. 303.
 minerals from Templeton Tp., Que., presented by, (77-78) p. 1 G.
- Miller Tp., Ont., red granites in, (72-73) p. 142
 gneiss series distribution of, (72-73) pp. 144-147.
 mica-schist group of rocks in, (74-75) p. 129.
 gneiss mountains in, (76-77) p. 251.
- Millerite, note on occurrence of in Orford, Sutton, Bolton and Ham Tps., Que., (1863) p. 507.
 locality for in Orford Tp., Que., (1863) p. 738.
- Millers Corners, Carleton Co., N.B., diorite band passing near, (66-69) E. p. 199, F. p. 221.
 localities for hematite, westward to St. John River, (74-75) p. 102.
- Millpond, Boulardrie district, N.S., description of, small fault, coal outcrops on, (74-75) p. 248.
- Millpond coal-seam, Boulardrie, N.S., section of, (74-75) p. 247.
- Millstone Grit Formation in eastern Nova Scotia, coal-seams, character of deposition, (73-74) pp. 176-177.
 disturbances in, Albert Co., N.B., (76-77) p. 384.
 characters of in Albert and Westmoreland Cos., N.B., (76-77) p. 383.
- Millstone Grit Formation—*Cont.*
 in Cape Breton Island, N.S., characters and fossils of, (73-74) p. 176.
 thickness of at Sydney Harbour, (73-74) p. 177.
 general description, (74-75) pp. 174-175.
 derivation of material for formation of, (74-75) p. 175.
 section at Mira Bay, total thickness, (74-75) pp. 176-179.
 changes in character of beds, (74-75) p. 180.
 fossil plants of, at Mira Bay, (74-75) p. 180.
 thickness of at Mira Bay, (74-75) p. 180.
 section at North Head, Cow Bay, (74-75) pp. 181-183.
 exposed at Cape Dauphin, (74-75) p. 183.
 sections of, from Victoria mines to South Bar, Sydney Harbour, (74-75) pp. 185-186.
 section of on west side Sydney Harbour from Stupart Point southward, (74-75) pp. 187-188.
 coal-seams in, (74-75) pp. 188-189, and (76-77) p. 447.
 section of between Lorway and Sydney Harbour, (74-75) p. 190.
 list of fossil plants from Cossitt pits, near Sydney, (74-75) pp. 191-192.
 division between Coal Measures and, (74-75) p. 195.
 large flags quarried from, (74-75) p. 263.
 of Sydney coal-field, descriptions of exposures, (75-76) pp. 410-412.
 general note on, (76-77) pp. 447-448.
 in Cape Breton Co., (77-78) pp. 24-25 F.
 of vicinity of Loch Lomond, note on characters of, (79-80) p. 34 F.
 in Richmond and Inverness Cos., note on subdivisions of Carboniferous, (79-80) p. 111 F.
 of northern part, note on relation to Coal Measures, (82-84) p. 53 H.
 in Cumberland coal-fields, N.S., Styles Brook conglomerates, (73-74) pp. 164-166.
 divisions and thickness, (73-74) p. 170.
 of Pictou coal field, N.S., (66-69) E. pp. 7-13, F. pp. 8-14.
 area east of East River and McLellan Brook, (66-69) E. p. 8, F. p. 9.
 area occupied by, west of East River, (66-69) E. p. 62, F. p. 69.
 anticline between Weir's mills and Ross Bridge, (66-69) E. p. 13, F. p. 14.
 shaly coal in French's tunnel, McLeod Brook, (66-69) E. p. 104, F. p. 117.
 furnishing boulders and drift on Smokeytown road and Waters Brook, near bridge, (66-69) E. p. 62, F. p. 69.
 west of East River, description of, (66-69) E. pp. 58-63, F. pp. 65-70.
 numerous faults, horizons of sections not clear, (66-69) E. p. 59, F. p. 65.
 outlying patches of, (66-69) E. p. 62, F. p. 68.

Millstone Grit Formation—*Cont.*

section on East River, above Albion mines, (66-69) E. p. 61, F. p. 67.
section on McLeod's Brook, (66-69) E. p. 60, F. p. 66.

white limestones, impure and nodular limestones of, (66-69) E. p. 61, F. p. 67.

Millstones, rocks of Canada suitable for, localities for, (1863) pp. 807-808.

Millstream, Nipisiguit Bay, N.B., Cambro-Silurian slates and Lower Carboniferous conglomerates, (79-80) p. 23 D.

Millville, Southampton Parish, N.B., rocks north of, argillites and amygdaloidal rocks, (82-84) p. 20 G.

description of kame near, (82-84) p. 27 GG.

Milton, Ont., well near, in Trafalgar Tp., (63-66) p. 252.

Milton Tp., Que., magnesian limestone band in, (1863) p. 244.

copper localities in, (63-66) p. 303.

vitreous copper-ore found in, (1863) p. 712.

Miminegash, P.E.I., rocks of, (82-84) p. 13 E.

Mimico River, Ont., exposures of Hudson River Formation referred to, (1863) p. 213.

Minas Basin, N.S., Triassic rocks of, unlike Prince Edward Island, (82-84) p. 12 E.

Minas Channel and Basin, tidal erosion in, (77-78) p. 20 EE.

Mindemooya Lake, Manitoulin Island, Ont., description of, (63-66) p. 166.

Mineral paint in fire-clay on Piskahegan River, N.B., (72-73) p. 187.

occurrence in central New Brunswick, (72-73) p. 227.

Mineral resin from Shaw's mill, Gaspé, properties and analyses of, (1863) p. 791.

from York River, Gaspé, extent of beds carrying, analysis of specimen. (1863) p. 792.

from York River, Gaspé, analysis, (1863) p. 792.

examination of, from North Saskatchewan, Peace and Nechacco rivers, (76-77) pp. 471-472.

Mineral silicates, T. S. Hunt on origin of, (63-66) pp. 229-233.

Mineral species found in Canada, with general distribution, (1863) pp. 454-530.

of southern New Brunswick, (70-71) pp. 237-240.

Mineral spring on Rabbit Island, Richmond Co., N.S., (79-80) p. 113 F.

at East Bay, N.S., (76-77) pp. 404, 455.

rocks of, (76-77) p. 417.

Mineral springs, waters of, list of springs, analyses of waters, (1863) pp. 531-564.

classification of, (1863) pp. 531-532.

list of, with short description of each, (1863) p. 532-547.

table of analyses of water from, (1863) pp. 547-550.

chemistry of, (1863) pp. 550-560.

Mineral springs—*Cont.*

geological distribution and origin of, comparison with European springs from similar horizon, (1863) pp. 561-564.

origin of, note on, (1863) p. 562.

temperatures of, economic uses, medicinal value, (1863) p. 564.

on Clearwater River, N.W.T., note on, (82-84) p. 26 CC.

Mineral statistics, R. Bell and E. Hartley given charge of, copies of circulars sent out, (69-70) pp. 12-14 Summ.

Mineral veins, theory of, (1863) p. 735.

note on origin of, segregation and infiltration, (70-71) p. 256.

examples of, from Australia, great depth of, (70-71) p. 256.

in Gaspé limestone at Little Gaspé and Indian Coves, (1863) p. 400.

in Huronian rocks, age and characters of, (1863) p. 59.

of Laurentian System, (63-66) pp. 186-192.

general note on, (1863) p. 37.

of the eastern Palaeozoic area, note on, (1863) p. 618.

in Palaeozoic rocks of western area, Ontario, vein in Ramsay Tp., Ont., (1863) p. 636.

of Thunder Bay District, Ont., note on, (66-69) E. p. 357, F. p. 395.

of upper part of Upper Copper-bearing Series of Lake Superior, general note on occurrence, (1863) pp. 74-75.

Mineral waters, four classes defined by T. S. Hunt, (63-66) p. 277.

saline, two grades of, analyses, (63-66) p. 271.

compared with that from Goderich, Ont., (63-66) p. 272.

source of, medicinal importance of, (63-66) p. 277.

raised in Block House mine, N.S., analysis of, (72-73) p. 281.

from Charlotteville, Ont., analysis of, (1863) p. 537.

sent to Museum by Jas. Grant, Ottawa, (74-75) p. 14.

from East Bay, N.S., analysis of, (76-77) p. 456.

from Eastman Springs, Ont., analysis of, (74-75) pp. 318-319.

from Hamilton, Ont., analysis of, (1863) p. 538.

raised from Little Glace Bay coal mines, N.S., (72-73) p. 262.

from MacMaster's mill, Victoria road, Queensville, N.S., analysis of, (79-80) p. 7 H.

from St. Catherines, Ont., analyses of, (1863) p. 543.

from Tuscarora, Ont., analysis of, (1863) pp. 545-546.

Mineral wax in Trenton Formation at Rivière du Loup, Que., (63-66) p. 252.

Mineralogical section of Museum, re-arranged in 1870, additions to, (70-71) p. 11.

- Mineralogical stratigraphy, errors caused by, (77-78) p. 14 A.
- Minerals, crystalline, found in amygdaloidal traps of Lake Superior, note on mode of occurrence, (1863) p. 71
- of apatite-bearing veins of Ottawa Co., Que., report by B. J. Harrington, (77-78) pp. 1-37 G.
- compared with Norway, (77-78) p. 13 G.
- of Roberts Bay, Ont., (76-77) p. 207.
- of Laurentian limestone, list of species, (63-66) pp. 198-199.
- in trap at Alick Island, St. Peters Inlet, N.S., (77-78) p. 20 F.
- Minerals, economic, catalogue of collection sent to Philadelphia Exhibition, note on, (76-77) p. 1.
- used in agriculture, phosphate of lime, gypsum and marl, (1863) pp. 757-767.
- used as pigments, iron-ochres, sulphate of barytes, (1863) pp. 767-771.
- of British Columbia, general note on by G. M. Dawson, (76-77) pp. 103-149.
- of eastern Cape Breton Island, N.S., (74-75) p. 262-264.
- of region in vicinity of Bow and Belly rivers, Alta., (82-84) pp. 127-139 C.
- of Hudson Bay basin, note on, (79-80) p. 32 C.
- of southern New Brunswick, (70-71) pp. 237-240.
- additional notes on mining and deposits of, (78-79) pp. 23-26 D.
- of Ontario, notes by H. G. Vennor, (74-75) pp. 159-165.
- Miners, of Cape Breton coal-mines, notes on condition, wages, etc., (72-73) pp. 287-288.
- number of in Cassiar District, B.C., (76-77) p. 117.
- number of, in British Columbia, mining gold, (76-77) p. 106.
- employed in Omenica gold district, B.C., in 1879, (79-80) p. 112 B.
- Miners Brook, Cascapedia River, Gaspé, Devonian rocks of, (82-84) p. 20 E.
- list of Devonian fossils from, (82-84) p. 23 E.
- character of country, (82-84) p. 11 E.
- Mines, circumstances retarding development of in British Columbia, (76-77) p. 104.
- in Nova Scotia visited by C. W. Willimott, notes on, (82-84) pp. 20-23 L.
- in Lake Superior region, in operation in 1882, list of, (80-82) p. 17.
- in Ontario, notes on by C. W. Willimott, (82-84) pp. 5-15 L.
- on north side Portage Lake, Mich., (63-66) pp. 152-154.
- of Quebec, notes on by C. W. Willimott, (80-82) pp. 1-14 GG, and (82-84) pp. 16-20 L.
- Mines in Quebec, notes on the following:—
- Albert, Ascot Tp., extent of works, copper, (63-66) p. 40.
- Ascot Tp., Que., gold, (63-66) p. 64.
- Belvidère, reference to, (63-66) p. 40.
- Brompton Gore, copper-ores of Sillery division, (63-66) p. 39.
- Buckingham, plumbago, (76-77) p. 318.
- Mines in Quebec—*Cont.*
- Capel, Ascot Tp., copper, (63-66) p. 42.
- Coldstream or Coldspring mine, in Melbourne Tp., (63-66) p. 38.
- Grand Trunk, (63-66) p. 34.
- Griffiths, Ascot Tp., copper, (63-66) p. 43.
- Harvey Hill, copper, (63-66) p. 34.
- Reid Hill, Hatley Tp., copper, (63-66) p. 42.
- Huntingdon, copper, (63-66) p. 35.
- Lower Canada, Ascot Tp., copper, (63-66) p. 40.
- Marrington, Ascot Tp., iron-pyrites and copper, (63-66) p. 42.
- St. Francis, Cleveland Tp., copper, (63-66) p. 38.
- Victoria, Ascot Tp., copper, (63-66) p. 42.
- Mingan, Que., iron-sand on coast west of St. John River, (66-69) E. p. 266, F. p. 294.
- variations in composition of layers, (66-69) E. p. 269, F. p. 295.
- analysis of iron-sand, mouth of St. John River, (66-69) E. p. 269, F. p. 295.
- Mingan Islands, Gulf of St. Lawrence, reference to anorthosite rocks of coast west of, (1863) p. 66.
- Calcareous Formation at, (1863) p. 119.
- characters of the Chazy Formation at, sections of, on Clearwater Point and Large Island, (1863) pp. 134-135.
- the Trenton Group exposed on, (1863) p. 164.
- Potsdam sandstone on, (1863) p. 287.
- ancient sea-beaches on Large Island, (1863) p. 924.
- coloured section to Cap d'Espoir, Gaspé, (1863) Atlas.
- Mingan River, Que., occurrence of epidotic gneiss at lowest fall on, (1863) p. 37.
- exposures of Calcareous rocks near, noted, (1863) p. 119.
- Mining, on Lake Superior, ancient mining works by aborigines, early French mining, (1863) p. 701.
- present, progress in, (72-73) pp. 108-111.
- in Cariboo District, B.C., (76-77) p. 108.
- prospects for future of, on Leech River, B.C., (76-77) p. 100.
- cost of, in apatite mines of North Burgess Tp., Ont., (74-75) p. 109.
- Mining iron-ores in Canada, note on cost in various mines. (73-74) pp. 243-244.
- Mining statistics of Canada for 1869-71, by Chas. Robb, (71-72) pp. 147-154.
- difficulty of collecting returns, publication to be triennial, (73-74) p. 183, and (74-75) p. 16.
- Mining lots M and C, Thunder Bay, large vein on, (66-69) E. pp. 325-359, F. pp. 358-397.
- Minitchenas Hill, South Saskatchewan River, description quoted from H. Y. Hind's report, (73-74) p. 30.
- Mink Brook, Galant River, N.S., pre-Cambrian rocks of, (82-84) p. 23 H.

- Mink Gulch, B.C., gold workings on, (76-77) p. 134.
- Mink Lake, Wilberforce Tp., Ont., deposit of marl noted, (1863) p. 765.
- Minnesabic Island, Big Stone Bay, Lake of the Woods, auriferous quartz veins on, workings at, (82-84) p. 13 K.
assay of ores from, (82-84) pp. 10-11 MM.
- Minnitakie Fall, Sturgeon Lake River, Ont., rocks at, (72-73) p. 101.
- Minnitakie Huronian band, general width of, (72-73) p. 107.
- Minnitakie Lake, canoe-route to Lonely Lake, from Wabigoon, Ont., (72-73) p. 10.
route east to Sturgeon Lake, (72-73) p. 100.
size of islands, Huronian schists of, (72-73) p. 101.
glacial striæ on, (74-75) p. 44
- Minisegog Lake, Ont., exposures of Parry Sound limestone band in, (76-77) p. 206.
- Miocene conglomerates, a source of supply for quartzite shingle in river channels of western plains, (82-84) p. 142 C.
- Miocene deposits of Brandon, Vermont, note on, (1863) p. 929.
- Miocene river-valleys in British Columbia, not coincident with present valleys, (77-78) p. 15 B.
- Miocene Tertiary discovered in Cypress Hills, Assa., (82-84) p. 3.
- Mira basin of Lower Silurian in Cape Breton Co., N.S., (77-78) pp. 11-15 F.
- Mira Bay, N.S., section of Millstone Grit, (74-75) pp. 176-179.
fossil plants of the Millstone Grit, (74-75) p. 180.
thickness of Millstone Grit, (74-75) p. 180.
diagrammatic section of Coal Measures on the west side of, (74-75) p. 266.
Carboniferous conglomerate and limestone of, (77-78) p. 23 F.
note on building stone of, (77-78) p. 32 F.
- Mira brick-works, Cape Breton Co., N.S., note on clay, (77-78) p. 36 F.
- Mira felsites of Cape Breton Co., N.S., (77-78) pp. 4-6 F.
- Mira Hills, N.S., Laurentian rocks of, (76-77) pp. 405, 424.
Carboniferous rocks of, (76-77) pp. 446-447.
assays of manganese-ores from, (79-80) p. 17 H.
- Mira River, N.S., southern limit of Millstone Grit on, (74-75) p. 179.
note on felspathic sandstones at Marion Bridge, (75-76) p. 393.
Lower Silurian rocks of, (76-77) p. 437.
Millstone Grit of, (76-77) p. 447, and (77-78) p. 24 F.
- Mira road, N.S., Lower Silurian rocks of (76-77) p. 437, and (77-78) pp. 14-15 F.
from A. McKinnon's to Fourchu road, sandstones, grit and conglomerate, (77-78) p. 16 F.
- Mira road, N.S.—*Cont.*
Millstone Grit exposures near Salmon River, (77-78) p. 25 F.
- Mirabelle from Fort St. John, Peace River, analysis of, (75-76) p. 421.
- Miramichi Harbour, N.B., depth of peat-deposit on south side, (79-80) p. 43 D.
- Miramichi River, N.B., note on character of country on, (79-80) p. 4 D.
note on coal-seams of valley of, (79-80) p. 7 D.
gneiss and schists of Main and Little South-west branches, (79-80) p. 32 D.
grindstone quarries referred to, (80-82) p. 5 D.
fine ridges of land seen on, (80-82) p. 20 D.
reported discovery of gold-bearing quartz, (80-82) pp. 21-22 D.
- South-west Branch, exposures of slate below granite and Carboniferous area, (66-69) E. p. 191, F. p. 211.
granite band, width of, (66-69) E. p. 194, F. p. 216.
Burnt Hill Brook, molybdenite on, (66-69) E. p. 206, F. p. 229.
granitic bands in York Co., (70-71) p. 245.
Little South-west Branch, notes on rocks by E. Jack, (70-71) p. 251.
- Miscou Island, N.B., peat-deposits of, referred to, walrus-bones found on, (79-80) p. 43 D.
- Misinchinca River, branch of Parsnip River, B.C., general description of country on, (79-80) pp. 35-36 B.
note on schists of, description of area occupied by, (79-80) pp. 108-109 B.
note on glacial striæ, thin deposit of drift, (79-80) p. 138 B.
- Misinchinca schists, note on composition of, comparative age, equivalent to gold-bearing series of Cariboo, B.C., (79-80) pp. 108-109 B.
- Mispec Barrens, St. John Co., N.B., peat deposits, (70-71) p. 230.
- Mispec conglomerate, N.B., thickness, position in series, (70-71) p. 170.
- Mispec group, of G. F. Matthew, characters of, (70-71) p. 24.
rocks of, composing upper part of Devonian, (70-71) p. 175.
- Mispec Harbour, N.B., "Primary" rocks of Gesner, (70-71) p. 20.
- Mispec River, St. John, N.B., thickness of Dadoxylon sandstone and Cordaite flags, (70-71) p. 175.
pre-Silurian rocks of upper part, (77-78) p. 11 DD.
- Mispickel, arsenical iron-pyrites of Charlotte Co., N.B., (70-71) p. 223.
from copper mine, Coxheath Hills, N.S., assay for gold and silver, (78-79) p. 17 H.
occurrences of, in Eastern Townships, Que., (1863) p. 505.

- Mispickel—*Cont.*
 from Grant Settlement, Musquodoboit River, N.S., assay for gold and silver, (79-80) p. 18 H.
 occurrence of at Marmora, Ont., (63-66) p. 218.
 from Marmora (?) assay for gold and silver, (79-80) p. 19 H.
 from Canada Consolidated Gold Mining Co.'s mine, Marmora, assay of, (82-84) p. 12 L.
 from Musquodoboit River, N.S., assay for gold and silver, (79-80) p. 18 H.
 reported from several localities in northern New Brunswick, (79-80) p. 44 D.
 vein of on rock near Scottish Island, Lake of the Woods, Ont., (82-84) p. 17 K.
- Missinaibi House, Ont., to Flying Post, list of plants collected by R. Bell, (80-82) pp. 19-28 C.
 list of coleoptera collected by R. Bell, 1881, (80-82) p. 33 C.
- Missinaibi Lake, Ont., topography, hills south of, (75-76) p. 330.
- Missinaibi River, Ont., branch of Moose River, meaning of name, corrected spelling, (77-78) p. 3 C.
 notes on lignite-seams found below Long Portage, (77-78) pp. 4-5 C.
 boulder-clay deposits with marine shells, (77-78) pp. 4-5 C.
 provisional list of Devonian fossils from, (77-78) pp. 5-6 C.
 glacial phenomena on, (77-78) pp. 6-7 C.
 soil of valley of, (77-78) p. 7 C.
 Conjuring House Rock, illustration showing, (77-78) p. 7 C.
 re-appearance of white elm on, (77-78) p. 25 C.
 notes on two fossils from débris at first portage, (75-76) p. 320.
 physical and geological description of route to Michipicoten, Lake Superior, (75-76) pp. 325-336.
 Devonian limestones of, character of exposures, (75-76) p. 327.
 list of portages, with length and rise, (75-76) pp. 327-331.
 geological features of, (75-76) pp. 332-335.
 glacial striæ, soil, timber and climate, (75-76) pp. 338-341.
 map showing geology of, *see* Map of Basin of Moose River, (80-82) accompanying Part C.
- Mission Creek, B.C., gold on, (76-77) p. 143.
 silver from, (76-77) p. 147.
 to north end Okanagan Lake, line of fracture, (77-78) p. 102 B.
 height of terraces at, (77-78) p. 147 B.
 gold-workings, character of deposit, diagraphic section, (77-78) pp. 157-158 B.
 probable Tertiary placers at, (77-78) p. 158 B.
- Mission Point, Restigouche River, Que., sandstone at, (1863) p. 450.
- Mission settlement, Okanagan Lake, B.C., area of arable land, etc., (77-78) p. 55 B.
- Missisquoi Co., Que.:—
for general geology see Part I., p. 9.
- Mississagagon Lake, Barrie Tp., Ont., marble from, (70-71) p. 315.
- Mississagui anticline in Huronian, evidences of, (1863) p. 62.
- Mississagui Bay, Lake Huron, Ont., gneiss band on coast at, (1863) p. 55.
- Mississagui Island, near Manitoulin Island, Ont., Trenton Group exposed on, (1863) p. 195.
- Mississagui River to Thessalon River, Lake Huron, gneissic band, width of, (1863) p. 48.
 copper-ore noted on, (1863) p. 60.
 note on anticlinal form of Huronian rocks, lower slate-conglomerate on, (1863) p. 62.
 note on indications for copper-ore, quartz veins carrying, (1863) p. 697.
 distribution of limestone and upper slate-conglomerate in valley of, (1863) pp. 841-842.
 thickness of greenstone in Huronian of, (1863) p. 843.
 sands and clays of valley of. height above Lake Huron, Algoma sands, (1863) pp. 906-907.
 map of Huronian area, scale 8 m. = 1 in., (1863) Atlas.
- Missisquoi Bay, Lake Champlain, Que., Lévis rocks at Phillipsburgh and vicinity, (1863) pp. 276-280.
 map showing geology of part of east shore, (1863) Atlas.
- Missisquoi River, Pottou Tp., Que., magnesian bands near, (1863) p. 248.
 exposures at Swanton Falls, Vt., (1863) p. 280.
 Potsdam sandstone found on, (1863) p. 281.
- Mississippi Brook, Gaspé, Que., exposure of limestone with petroleum, (1863) p. 884.
- Mississippi River, Ont., extent of dolomite bands on, (72-73) p. 154.
- Mississippi Valley, U.S.A., thickness of Devonian and Carboniferous in, (1863) p. 935.
- Missouri, U.S.A., rocks of, belonging to Laurentian and Huronian, iron-ores in, (1863) p. 66.
 note on the magnesian limestones of *in re* comparative table of formations, (1863) p. 935.
- Mistake Cove, Long Reach, St. John River, N.B., dioritic sandstones, Huronian, (70-71) p. 69.
 Upper Silurian rocks of, (70-71) p. 167.
- Mistassini Lake, Que., surveys made in 1870 on, by Jas. Richardson, (70-71) p. 8.
 to Lake St. John, canoe-route, description of, (70-71) pp. 283-285.
see under Lake Mistassini.
- Mistassini region, economic minerals of, (70-71) pp. 295-296.
 list of plants collected by J. Richardson, (70-71) pp. 306-308.

- Mistassini River, Que., Laurentian limestones observed on, (1863) p. 47.
 ascent of, by W. McQuat, 1871, (71-72) p. 116.
 to height-of-land, character of surface of country, (71-72) p. 117.
- Mistinago Lake, Montreal River, Ont., diorites and slates with dioritic conglomerate, (75-76) p. 362.
- Mistouc River, Saguenay River, Que., limonite in upper part, (82-84) p. 16 D.
- MITCHELL, JOHN, analysis of iron-ore from Iron Ore Hill, Carleton Co., N.B., (74-75) p. 104.
- MITCHELL and BARLOW, exploration and test pits in Cumberland Co., N.S., (66-69) E. p. 36, F. p. 41.
- Mitchell, Ont., boring for salt at, p. 288.
- Mitchell or Gold Harbour, Moore Channel, Q.C. Is., description of, (78-79) p. 41 B.
- Mitchell's iron-ore deposits, North Crosby, Ont., reference to, (74-75) p. 118.
- Moannes Stream, N.B., gray granites similar to those of White Mts. of New Hampshire, (70-71) p. 56.
- Moberly Lake, B.C., south of Peace River, explored by A. R. C. Selwyn, description of, (75-76) pp. 61-62.
 elevation of hill at south-west end, (75-76) p. 62.
 description of country around, (79-80) p. 62 B.
- Models, mining and metallurgical, importance of for museum, (74-75) p. 15.
- Modified drift-deposits of southern New Brunswick, (77-78) pp. 10-32 EE.
- Modiola formosa*, Meek and Hayden, from Sigutlat Lake, B.C., note on specimen, (76-77) p. 153.
- Modiola pertenuis*, Meek and Hayden, note on specimens of from Sigutlat Lake and Itas-youco River, (76-77) p. 153.
- Modiolopsis carinata*, Conrad, wood-cut of, (1863) p. 173.
- Modiolopsis Gesneri*, Billings, wood-cuts of, (1863) p. 172.
- Modiolopsis Maia*, Billings, wood-cut of, (1863) p. 143.
- Modiolopsis Meyeri*, Billings, wood-cut of, (1863) p. 173.
- Modiolopsis modiolaris*, Conrad, wood-cut of, (1863) p. 213.
- Modiolopsis Nais*, Billings, wood-cut of, (1863) p. 143.
- Moffats Island, Montreal, Que., trap-floor of trachyte, (1863) p. 207.
- Moira River, Hastings, Ont., basal beds of the Trenton Group exposed on, (1863) pp. 179-180.
 axis of undulation in Trenton, position of two escarpments, section of Birdseye and Black River Formations, (1863) pp. 185-186.
- Moisie, Que., description of black-sand deposit, (66-69) E. p. 264, F. p. 292.
 washing of black-sand, concentration of ore, (66-69) E. p. 265, F. p. 293.
 specific gravity of black-sands, (66-69) E. p. 265, F. p. 293.
 analyses of washed and unwashed black-sand, (66-69) E. p. 267, F. p. 295.
 forges in operation in 1868, consumption of charcoal at, (66-69) E. p. 280, F. p. 310.
 small yield of iron from furnaces, causes of, (66-69) E. p. 281, F. p. 311.
 analysis of slag from furnaces, (66-69) E. p. 283, F. p. 313.
 quality of iron produced, (66-69) E. p. 284, F. p. 314.
- Moisture in soil influencing growth of trees, (74-75) p. 51.
- Mollusca, land, fresh-water and marine, list of, collected by R. Bell during 1880, (79-80) pp. 75-76 C.
 list of from Manitoba and Nelson River, (78-79) pp. 61-62 C.
 from Lignite Tertiary of Souris Valley, Assa., (79-80) p. 91 A.
- MOLSON, CHAS. A., work by as assistant to R. Bell, (79-80) p. 2 C.
 surveys of Esnagami River in 1881, (80-82) p. 2 C.
 explorations south of Missinaibi Lake, (80-82) p. 8 C.
 explorations between Wabigoon and Rat Portage on Canadian Pacific Railway, (80-82) pp. 11, 13 C.
- MOLSON, W. M., first smelting of iron-sand in Canada, carried out by, (66-69) E. p. 264, F. p. 292.
- Molson's Bank, Montreal, Que., density of Ohio stone used in construction of, (63-66) p. 284.
- Molson Lake, Keewatin, description of, (79-80) pp. 6-7 C.
- Molybdenite, localities in Ontario and Quebec for, (1863) pp. 503-504.
 of Burnt Hill Brook, N.B., referred to, (79-80) p. 45 D.
 note on occurrence in Cape Breton Island, N.S., (75-76) p. 416.
 from Cowitchien, B.C., (76-77) p. 149.
 near Gaspereaux Station, N.B., (76-77) p. 329.
 at Gaspereaux River road, Cape Breton Co., N.S., (76-77) p. 452.
 specimen from Great Whale River, given to R. Bell, (77-78) p. 22 C.
 from Harvey Hill, Que., (1863) p. 755.
 from Howe Sound, B.C., (76-77) p. 149.
 occurrences of in Laurentian, (63-66) p. 218.
 occurrence of at Manicougan Bay, Que., (1863) p. 755.
 reported from Matawatchesan Tp., Renfrew Co., Ont., (74-75) p. 165.
 note on occurrence of in Ross Tp., Ont., Elliott and Rose's mines, (82-84) p. 8 L.
 occurrence on South-west Miramichi River, N.B., (66-69) E. p. 206, F. p. 229.

- Molybdenite—*Cont.*
 found at Trusty pit, Templeton, Que., (77-78) p. 36 G.
- Molybdenum, note on ores of, localities for, (1863) p. 503.
 compounds of, uses in arts, (1863) p. 754.
- Moncton, N.B., outliers of pre-Silurian rocks near, (77-78) p. 6 D.
- Money Point, near North Cape, N.S., rocks seen on road to Bay St. Lawrence, (82-84) p. 20 H.
- Monnoir Mountain, Que., *see* Mount Johnson.
- Mono Tp., Dufferin Co., Ont., indentation in outcrop of Clinton Formation on Nottawasaga River, (1863) p. 315.
 outcrop of gray-band sandstone from Flam-borough West to, (1863) p. 316.
 cavern in limestone at fall on Nottawasaga River, (1863) p. 334.
- Monomerella*, reference to description of new genus by E. Billings from Hespeler, Ont., (71-72) p. 14.
- Monotis beds, of Peace River, relations of, (76-77) p. 92.
 of the Pine River, near Canoe Mountain, relation of beds, (79-80) p. 113 B.
- Monotis shales, from Peace River, opposite mouth of Clearwater River, (75-76) pp. 75, 80.
 probable position in geological scale, (77-78) p. 173 B.
 of south arm Cumshewa Inlet, (78-79) p. 82 B.
- Monotis subcircularis*, Gabb, notes on from Fossil Point, Peace River, (75-76) p. 97.
 found in British Columbia, characteristic of Upper Trias, (76-77) p. 158.
 found near Echo Harbour, Q.C.Is., (78-79) p. 59 B.
- Monroe Beach, St. Anne Harbour, N.S., syenite of shore to Smith Brook, (75-76) p. 378.
- Montague, N.S., assay of tailings from gold mines at, (70-71) p. 279.
 gold in pyrites from gold mines, (70-71) p. 279.
 statistics of gold for 1869-71, (71-72) p. 150.
- Montague Tp., Ont., Potsdam sandstone surrounding gneiss, (1863) p. 93.
- Montana, U.S.A., note on character of drift-deposits of northern part, (82-84) p. 147 C.
- Montarville, Que., note on local metamorphism of limestone at, (1863) p. 634.
 olivine in granitoid-dolerite at, analyses of, (1863) p. 464.
 description of dolerite of, varieties found, analysis of peridotite, (1863) pp. 665-666.
 analysis of felspar from intrusive rocks, (1863) p. 666.
- Montarville Mountain, Que., intrusive rocks of, (1863) p. 209.
- Montcalm Co., Que., the Potsdam Group in, (1863) p. 95.
 note by H. G. Vennor on limestone bands and area of Labradorite rocks, (79-80) p. 3.
- Montcalm Tp., Argenteuil, Que., limestone bands above Grenville bands, (1863) p. 44.
- Monteagle Tp., Hastings, Ont., assays of ore from Victoria gold mine, (82-84) pp. 6-7 MM.
- Monticulipora (Monotrypa)* sp. indt., from St. Andrews, Man., notes on, (78-79) p. 45 C.
 notes on specimen from Stony Mountain, Man., (78-79) p. 49 C.
- Monticuliporidae* of Canada, revision of, commenced by A. H. Foord, (80-82) p. 23.
- Mont Louis Cove, Gaspé, Que., contorted strata seen at, (80-82) p. 22 DD.
- Montmagny, Que., *see* St. Thomas de Montmagny.
- Montmagny Co., Que., geological map on scale 8 m. = 1 in., (66-69) E. p. 119, F. p. 133.
for general geology see Part I., p. 9.
- Montmorency Falls, Que., anticlinal axis in Laurentian, (1863) p. 96.
 position and fossils of the Trenton Formation at, (1863) p. 158.
 the Hudson River Formation south of, (1863) p. 201.
 to Orleans Island, diagrammatic section, (1863) p. 234.
 note on slope of ancient coast in Potsdam times, (1863) p. 295.
 marine shells found in sand at bridge, (1863) p. 925.
- Montmorency anticline and fault, description of, (1863) pp. 157-158.
- Montmorency Co., Que.:—
for general geology, see Part I., p. 9.
- Montreal, Que., distribution of the Chazy Formation near, (1863) p. 132.
 note on intrusive dykes cutting older traps, (1863) p. 207.
 trap dykes and trap floors in Utica Formation near, (1863) p. 207.
 fluor-spar recorded from fossiliferous limestone, (1863) p. 463.
 note on altered limestone of Mount Royal, analyses of, (1863) p. 582.
 analysis of dolomite from St. Lawrence toll-gate, (1863) p. 619.
 brick manufacture at (1863) p. 802.
 limestone for building purposes, total amount quarried, (1863) p. 818.
 description of superficial deposits of, (1863) pp. 918-919.
 longitude of, as established by E. D. Ashe, (1863) p. 9 Atlas.
 density of stone in Episcopal Cathedral and Molson's Bank building, (63-66) p. 284.
 analysis and description of diorite dykes of, (77-78) pp. 42-46 G.
 analysis of analcite from Mount Royal, (77-78) p. 45 G.
- Montreal and New Glasgow Cos. slope, Potters Brook, Pictou, N.S., (66-69) E. p. 45, F. p. 52.
- Montreal and Pictou areas, Pictou, N.S., coal-seams, difficulty of comparison, (66-69) E. p. 81, F. p. 90.
 seam identified with McGregor seam, (66-69) E. p. 82, F. p. 91.

Montreal and Pictou areas—*Cont.*

- trial pits, evidence from, (66-69) E. p. 81, F. p. 90.
outcrop of coal, (66-69) E. p. 81, F. p. 90.
record of measures in pit and drift, (66-69) E. p. 105, F. p. 118.
record of work in bench and bore-hole, (66-69) E. p. 106, F. p. 119.
analysis of coal from Montreal and Pictou seam, (66-69) E. pp. 387-388, F. p. 430.
analysis of oil-coal from, (66-69) E. p. 388, F. p. 431.
- Montreal and Pictou Coal Co., of Halifax, N.S., area owned by, pit sunk, (66-69) E. p. 105, F. p. 118.
gas trials of coal at Pictou gas-works, (66-69) E. p. 434, F. p. 484.
- Montreal and Pictou seam, probable beds of coal overlying, (66-69) E. p. 106, F. p. 120.
analysis of coal from, (66-69) E. p. 387, F. p. 429.
- Montreal Island, Que., the Calciferous Formation of, characteristic fossils, (1863) p. 114.
Chazy Formation of, fossils, character of beds, thickness, (1863) pp. 125-126.
distribution of the Chazy Formation on, (1863) pp. 131-132.
Birdseye and Black River limestone of, section, (1863) pp. 136-137.
section of Trenton limestone on, (1863) pp. 137-138.
distribution of Trenton Group on, (1863) p. 141.
exposures of Utica shales on, (1863) p. 207.
worn fissure in Trenton, filled with dolomitic conglomerate, probably Lower Helderberg, (1863) p. 357.
analysis and mechanical examination of soil from, (1863) pp. 639-640.
note on trachytes of, with analyses, (1863) pp. 658-662.
deposits of marl on, (1863) p. 766.
note on lime manufacture, (1863) p. 803.
note on limestone of, for building purposes, (1863) p. 817.
the gray limestones of, used as marbles, (1863) p. 827.
description of superficial deposits of, (1863) pp. 918-920.
- Montreal Island, Lake Superior, Ont., reference to rocks of, (1863) p. 82.
- Montreal Mountain, Que., terraces and beaches on, heights of, (1863) p. 918.
see also Mount Royal.
- Montreal reservoir extension, dykes cutting Trenton limestones, minerals in, (74-75) pp. 302-304.
- Montreal River, Lake Superior, Laurentian rocks of, (63-66) p. 118, and (76-77) p. 217.
- Montreal River, Ont., tributary of Ottawa River, slates in Huronian, (1863) p. 830.
rocks of from White Beaver Lake to Pigeon Lake, (75-76) pp. 293-305.
map of, showing geology, 8 m. = 1 in., *see* Map of Basin of Moose River accompanying, (80-82) Part C.
- Monument settlement, Carleton Co., N.B., belt of metamorphic and igneous rocks reaching to, (82-84) p. 16 G.
- Monument settlement, York Co., N.B., description of kame known as "The Horseback," (82-84) p. 25 GG.
- Monumental posts erected by Haida Indians, (78-79) p. 133 B.
description of, (78-79) p. 148 B.
- MOODY, COLONEL, reference to report on coal-fields of Nanaimo, B.C., (71-72) p. 51.
on character of central plateau, British Columbia, (71-72) p. 69.
- Moody Hill, Carleton Co., N.B., height above Woodstock, (74-75) p. 98.
description of openings for iron-ore at, (74-75) p. 98.
- Moon Lake, near Talon Lake, Ont., limestone band on, (76-77) p. 207.
- Moona Island, St. Peters Inlet, N.S., Carboniferous rocks on, (77-78) p. 20 F.
- MOORE, C., referred to, (76-77) p. 152.
- Moore Brook, St. Andrew Channel, N.S., red syenite, felsite and quartzite, (75-76) p. 375.
rocks of coast at, (75-76) p. 388.
- Moore Channel, Q.C.Is., B.C., description of, (78-79) p. 41 B.
- Moore's Corners, St. Armand, Que., breadth of Potsdam Group exposed near, (1863) p. 285.
- Moore Lake, Charlotte Co., N.B., rocks of, staurolite in rocks, (70-71) p. 56.
crystals of staurolite, (70-71) p. 240.
andalusite crystals in schist, (76-77) pp. 328-329.
metamorphic rocks, (76-77) p. 328.
staurolite crystals in slates, (76-77) p. 328.
- Moore's mill, Charlotte Co., N.B., gneiss north and west of, (70-71) p. 51.
rocks at, (70-71) p. 56.
pre-Carboniferous rocks of the dark argillite series, (70-71) p. 196.
crystals of tourmaline and garnet, (70-71) p. 239.
crystals of andalusite, (70-71) p. 240.
- Moore's mine, Wakefield, Que., notes on progress in work at, (80-82) p. 9 GG.
note on apatite of, (80-82) p. 10 GG.
cave opened in mine, new openings made, (82-84) p. 18 L.
- Moore Point, St. Andrew Channel, N.S., Carboniferous limestone of, (75-76) p. 406.
- Moorhead Creek, B.C., gold workings of, (76-77) p. 137.
- Moose Deer Point, Georgian Bay, Ont., rocks of, (76-77) p. 198.
- Moose Factory, distance from Michipicoten to, (75-76) p. 332.
crops raised at, character of soil, climate, (75-76) p. 341.
survey of mouth of river at, (77-78) p. 8 C.

Moose Factory—*Cont.*

- table of seasonal or periodic events from 1878 to 1880, (79-80) p. 89 C.
 table showing arrival and departure of vessels at, from 1735 to 1880, (79-80) pp. 90-92 C.
 table of meteorological observations for 1876 and 1878, (79-80) pp. 102-113 C.
- Moose Lake, B.C., photographs taken by A.R.C. Selwyn, (71-72) p. 42.
 note on rocks of, (71-72) p. 63.
- Moose Lake, Sask., surveys made by A. S. Cochran, exposures of limestone, (79-80) p. 9 C.
 survey made in 1882, (80-82) p. 16.
- Moose Mountain Creek, Souris River, Assa., examination of, for boring operations, (79-80) p. 4 A.
 bore-hole, record of, with section of drift-deposits, (79-80) p. 9 A.
- Moose River, Yellow Head Pass, B.C., description of, (71-72) p. 43.
 to Canoe River, B.C., journal of A. R. C. Selwyn, (71-72) pp. 43-44.
- Moose River, Lesser Slave River, feasible railway route to Lesser Slave Lake, (79-80) p. 85 B.
- Moose River, Ont., description of gypsum deposits on, (75-76) p. 321.
 Devonian limestones of lower part, (75-76) p. 322.
 physical and geological description of route to Michipicoten, Lake Superior, (75-76) pp. 325-336.
 analysis of lignite from, near Long Portage, (75-76) p. 422.
 assay of hematite from, (75-76) p. 431.
 provisional list of fossils from below Misinaibi River, (77-78) pp. 5-6 C.
 glacial phenomena on, marine shells, (77-78) p. 7 C.
 jaw of mastodon found near forks of, (77-78) p. 7 C.
 agricultural value of valley of, (77-78) p. 8 C.
 survey of mouth of, by R. Bell, (77-78) p. 8 C.
 notes on timber of, (77-78) p. 25 C.
 note on map of, explorations shown on, (80-82) p. 1 C.
 geology of basin of, by R. Bell, (80-82) pp. 1-9 C.
 plan of mouth of, by R. Bell, with note by A. R. C. Selwyn, (80-82) p. 10 C.
 map of basin of, with head-waters of Ottawa River, and the White and Michipicoten rivers, (80-82) accompanying Part C.
- Moose River, N.S., metamorphism of hematites of, (73-74) p. 206.
- Moose River Bay, Lake Temiscaming, Ont., Huronian sandstones, slates and conglomerates at entrance of, (1863) p. 336.
- Mooseland, N.S., assay of tailings from gold mines, (70-71) p. 279.
- Moosewake Lake, Albany River, Ont., two channels of river at, (71-72) p. 109.

- Mooyie River, Kootenay, B.C., rocks of valley at International Boundary, hypersthenic greenstone, (82-84) pp. 25-26 B.
- Moque Head, N.S., opposite Scatari Island, coloured felsites of, (77-78) p. 7 F.
- Moraines, definition of term, (82-84) p. 7 GG.
- Moraines, in Cape Breton Co., N.S., (77-78) p. 27 F.
 near Carp Lake, west of McLeod Lake, B.C., note on, (79-80) p. 32 B.
 near Carrier Lake, B.C., general character of country, (79-80) p. 31 B.
 on north slope of Cascade Mts., head-waters of Chilanco River, (75-76) p. 238.
 on Chilanco River, between Lower and Eagle Lakes, (75-76) p. 238.
 in southern British Columbia, not common, instances cited, erratics, (77-78) pp. 149-150 B.
 in Long Lake, valley of Black River, Pic River, Algoma, Ont., (70-71) p. 349.
 near Na-tal-kuz, B.C., (76-77) p. 42.
 in valley of Nazco River, B.C., note on, illustration showing, (75-76) facing p. 242.
 note on in Eastern Ontario, on Ottawa River, (1863) p. 895.
 or raised beaches in Richmond and Cape Breton Cos., N.S., (77-78) p. 27 F.
 in vicinity of base of Rocky Mountains, (82-84) p. 145 C.
 at Round Lake, Wabinoash River, Ont., (71-72) p. 106.
 in valley of Salmon River, B.C., (76-77) p. 27.
 near Stuart Lake, B.C., (76-77) p. 51.
 probable in islands of Tas-un-tat Lake, B.C., (76-77) p. 21.
 at mouth of inlets on west coast, British Columbia, (78-79) p. 100 B.
 in York and Carleton Cos., N.B., localities, (82-84) pp. 9-11 GG.
- Morancy Brook, Oromocto River, N.B., Carboniferous rocks of head-waters of, (72-73) p. 220.
- Morden, N.S., occurrence of moss-agate and other minerals at, (82-84) p. 26 L.
- Mordenite, note on occurrence of near Morden N.S., (82-84) p. 26 L.
- Moresby Island, Q.C.Is., B.C., copper from, (76-77) p. 148.
 general note on west coast of, (78-79) pp. 41-42 B.
- Moriah, N.Y., ores used in forge at, (66-69) E. p. 276, F. p. 305.
- Morin limestone band, note on relation to Grenville band, (1863) p. 837.
- Morin Tp., Que., general description of anorthosite rocks of, (1863) p. 33.
 note on limestone bands, and the anorthosite area, (1863) p. 44.
 relation of labradorites and limestone bands in, (1863) p. 838.
 anorthosite flanking limestone, rusty gneisses, (1863) p. 838.

- Morley, Alta., high terraces in Bow River valley near, (82-84) p. 146 C.
- Morley road, N.S., Laurentian rocks of, (76-77) p. 415.
- Lower Silurian rocks of, (76-77) p. 437.
- Carboniferous debris near Moira Lake, (77-78) p. 24 F.
- Morrington Tp., Ont., clays of, (1863) p. 900.
- Morris and Griffin's location, North Burgess Tp., Ont., explorations on, Potsdam sandstone, (71-72) p. 128.
- Morris Rock, south of Hornby Island, B.C., lower conglomerate, fossils of, (72-73) p. 47.
- Morrissey tunnel, Restigouche River, N.B., junction of trapean and Silurian rocks, (79-80) p. 21 D.
- Morrison Brook, Sydney Harbour, N.S., metamorphic rocks of, (73-74) p. 173.
- section from Point Edward to Carboniferous limestones, (74-75) pp. 172-174.
- metamorphic rocks on, (75-76) p. 373.
- Morrison Brook, Middle River, N.S., sandstones and conglomerates of Lower Carboniferous age, (82-84) p. 41 H.
- pre-Cambrian gold-bearing rocks of, (82-84) p. 10 H.
- Morrison's coal-seam, Newcastle River, N.B., section through measures of, (72-73) p. 203.
- Morrison Harbour, West Bay, N.S., traces of copper-ore in felsites of brook west of, (79-80) p. 6 F.
- section of felsites in streams near, (79-80) pp. 6-7 F.
- plaster and limestone of, (79-80) p. 65 F.
- Morrison Hill level, Londonderry, N.S., length, ore raised, (72-73) p. 25.
- Morrison mine, Loch Lomond, N.S., manganese ore-workings at, (82-84) p. 92 H.
- Morrison road, Richmond Co., N.S., syenite and shales on River Tillard near, (79-80) p. 9 F.
- contact of Carboniferous and pre-Cambrian, rocks on, (79-80) p. 65 F.
- Mortars, stone, used by Haidas for preparing tobacco only, (78-79) p. 115 B.
- used by Haida Indians, (78-79) p. 141 B.
- illustrations of on Plate VIII., (78-79) p. 240 B.
- Mosa Tp., Ont., note on oil springs and wells, (1863) pp. 523, 787.
- record of wells, (63-66) p. 245.
- Mosquito Bay, Hudson Bay, soapstone reported from, (77-78) p. 24 C.
- Mosquito Cove, St. John, N.B., Laurentian rocks of, (70-71) p. 38.
- Mosquito Creek, B.C., gold-workings on, (76-77) p. 135.
- Mosquito Creek, Little Bow River, Alta., general description of, (82-84) p. 27 C.
- Mosquito Point, Churchill River, end of chain of islands, (78-79) p. 19 C.
- Moss-agate, occurrence of, near Morden, N.S., (82-84) p. 26 L.
- Mossy Portage, (western) Cedar Lake, Sask., height of ridge above lake, (74-75) p. 61.
- Mottled diorite, at Parry Sound, Ont., (76-77) pp. 199-204.
- at Partridge Bay, Ont., (76-77) p. 198.
- Moulton Hill, Que., crystals of mispickel in vein at, (1863) p. 505.
- argentiferous galena with mispickel, noted at, (1863) p. 516.
- yield of silver in lead-ore of, (1863) pp. 518, 739.
- Mount Albert, Shickshock Range, Que., serpentines of, chromic iron-ore in serpentines, (1863) p. 266.
- deposits of chromic iron-ore in, (1863) p. 504.
- probable presence of bed of chrome-ore indicated, (1863) p. 749.
- note on serpentines as building stones, (1863) p. 825.
- rocks of, containing olivine, (77-78) p. 40 G.
- note on serpentines, eruptive origin of, (82-84) p. 32 E.
- character of summit, description of view from, (82-84) pp. 7-8 F.
- section of metamorphic rocks of, (82-84) pp. 17-18 F.
- serpentine and olivine rocks of, (82-84) pp. 19-20 F.
- examination of rock by F. D. Adams, (82-84) p. 20 F.
- note on chromic iron-ore found on, (82-84) p. 20 F.
- Mount Alexander, St. John River, Gaspé Co., Que., height of, (80-82) p. 12 DD.
- Mount Buxton, B.C., height of, (74-75) p. 75.
- Mount Calvaire, Que., intrusive mass in Palæozoic rocks, (1863) p. 9.
- Laurentian rocks composing, protruded through Potsdam sandstone, (1863) p. 91.
- outlier of Lower Helderberg, on east side of, (1863) p. 357.
- peculiarities of dolomitic conglomerate at, (1863) p. 626.
- Mount Commis, Que., green sandstones composing, (1863) p. 261.
- outcrop of Gaspé Series near, (1863) p. 418.
- Mount Delight settlement, N.B., green crystalline rocks cutting slates, (74-75) p. 100.
- Mount Eboulements, Que., estimated height of, (1863) p. 5.
- Mount Forest, Ont., superficial deposits, gravel over clay, (1863) p. 900.
- Mount Geoffrey, Hornby Island, B.C., thickness of Middle Conglomerate, (72-73) p. 49.
- Mount Granville, St. Peters, N.S., rocks of, character of trap, (77-78) p. 19 F.
- Mount Healey, Ont., section of plaster beds, character of dolomite deposits, (1863) pp. 348-349.
- bed of gypsum referred to, (1863) p. 762.
- Mount Ida, Shuswap Lakes, B.C., elevation of, (77-78) p. 23 B.
- probable rocks of, (77-78) p. 97 B.

- Mount Johnson or Monnoir Mt., Que., rocks of, (1863) p. 209.
analysis of oligoclase from, (1863) p. 477.
sphene found in diorite of, (1863) p. 502.
note on the diorite of, and reference to analysis of feldspars, (1863) p. 664.
- Mount Joli, near Percé, Que., rocks of lower part of Devonian, (80-82) p. 8 DD.
- Mount Kirby and Spence, South Kootenay Pass, B.C., note on rocks of, (82-84) p. 28 B.
- Mount Lennox, Que., section of Gaspé Series on, (1863) pp. 420-421.
- Mount Mark, Vancouver Island, B.C., diorites capping limestones of, (72-73) p. 53.
interstratified diorites and limestones, fossils from, (72-73) p. 546.
- Mount Palmer, Puntzee Lake, B.C., description of, rocks supposed to be of Lower Cache Creek Group, (75-76) p. 248.
- Mount Pleasant, N.B., hills of the slate belt, (70-71) p. 16.
- Mount Pleasant, South-west Margaree River, N. S., Lower Carboniferous limestone-series, (82-84) pp. 50-51 H.
- Mount Pleasant Brook, Inverness Co., N.S., feldspar and diorite rocks of, (82-84) p. 10 H.
Lower Carboniferous rocks of upper part of, (82-84) p. 38 H.
note on the barrens of, (82-84) p. 77 H.
- Mount Prospect, near St. John, N.B., exposures of Dadoxylon sandstone and Cordaites shales, (70-71) p. 174.
- Mount Prospect road, N.B., height of raised beaches, (77-78) p. 31 EE.
- Mount Royal, Que., rocks of trap dykes and intercalated masses in Trenton and Chazy Formations, (1863) p. 143.
orthoclase in trachyte of, analysis, (1863) p. 476.
analysis of feldspar from dolerite of, (1863) p. 479.
linear distribution of boulders near, (1863) p. 896.
note on dolerites of, with analysis of feldspar from augite rock, (1863) pp. 667-668.
age of rocks of, (77-78) p. 45 G.
- Mount Royal, Jackfish Island, Lake Nipigon, Ont., note on, (66-69) E. p. 348, F. p. 385.
- Mount Ste. Anne, Que., estimated height of, (1863) p. 5.
- Mount St. Paul, near Kamloops, B.C., height of, illustration showing, (77-78) p. 18 B.
rocks of, (77-78) p. 80 B.
- Mount Selwyn, Peace River Pass, B.C., ascent of, height, view showing, (75-76) facing p. 42.
reddish-white quartzites, gray calc-schists and limestones, probably Cache Creek Group, (75-76) p. 80.
vegetation at base and to summit, list of plants collected, (75-76) pp. 145-148.
temperature on, (75-76) p. 149.
- Mount Serpentine, west coast of Newfoundland, rocks of, similar in character to those of Eastern Townships, Que., (1863) p. 293.
- Mount Serpentine, Gaspé, Que., copper-ores in rocks referred to, (1863) p. 734.
Gaspé limestones near Dartmouth River, (1863) p. 881.
- Mount Seymour, Skidegate Inlet, Q.C.Is., rocks of, agglomerate series, (78-79) p. 69 B.
- Mount Thompson, B.C., terraces around base of (71-72) p. 38.
- Mount Wissick, Que., section of Gaspé Series shown on, (1863) pp. 420-421.
- Mount Yarell, South Kootenay Pass, B.C., altitude of, note on rocks of, (82-84) p. 28 B.
- Mount Young, near Mabou, N.S., sandstone and shale of Lower Carboniferous, (82-84) p. 42 H.
- Mountain of Rocks, Peace River, analysis of coal from, (75-76) p. 6, and (79-80) p. 119 B.
- Mountain ash, note on range of in Canada, (79-80) p. 54 C.
in British Columbia, note on, (79-80) p. 176 B.
- Mountain axis of Queen Charlotte Islands, composition of, (78-79) p. 45 B.
- Mountain Creek, Wapiti River, Atha., sandstones and shales, (Fox Hill and Laramie) exposures on, lignite of, (79-80) p. 124 B.
- Mountain House, Fraser River, B.C., wagon road to, (71-72) p. 22.
- Mountain Lake, Pigeon River, Ont., rusty slates, (72-73) p. 92.
- Mountain leather from Grant mine, Buckingham, Que., (77-78) pp. 16-24 G.
- Mountain maple, note on distribution of in Canada, (79-80) p. 54 C.
- Mountain or Iroquois Portage, Magdalen River, Gaspé, Que., dolomite of, with analysis, (1863) pp. 268, 614, 805.
- Mountain Portage, Peace River, *see* Rocky Mountain Portage.
- Mountain ranges, of coast region of British Columbia, note on, (79-80) p. 2 B.
near Skeena Forks, B.C., height of, (79-80) p. 16 B.
of southern part of British Columbia, general remarks, (77-78) pp. 4-5 B.
general description of, (82-84) pp. 8-9 B.
- Mountain Rapid, Athabasca River, tar-sands and Devonian limestone, diagrammatic section, (82-84) p. 18 CC.
glacial-striae at, (82-84) p. 28 CC.
- Mountain seam, Pictou, N.S., thickness and position, (66-69) E. p. 36, F. p. 40.
- Mountain street, Quebec, conglomerate band traced to, from Cape Diamond, (1863) p. 230.
- Mountains, of height-of-land, west of Babine Lake, B.C., (79-80) p. 23 B.
near Babine Lake, B.C., height of, (79-80) p. 26 B.

- Mountains—*Cont.*
 of northern part of British Columbia, general note on, (79-80) pp. 24-25 B.
 of the Pacific slope, age of, (76-77) p. 103.
 of the Skeena Pass, average height of, (79-80) p. 13 B.
 surrounding Skidegate Inlet, Q.C. Is., (78-79) p. 30 B.
 Laurentides, note on structure and general height, (1863) pp. 4-5.
 general description of, (1863) p. 2.
 Notre Dame, general description, note on structure of, (1863) pp. 2-3.
 Rocky, forming western boundary of great American plain, (1863) p. 18.
 volcanic, in Coast Range, B.C., (76-77) p. 26.
- Mouth of Hayes River, map of, scale 1 m. = 1 in., on map accompanying, (77-78) Part CC.
- Mouth of Nelson River, character of channel, velocity of stream, height of tides, (77-78) pp. 10-11 CC.
- Muckwable Lake, Nipissing Tp., Ont., limestone exposures on, (76-77) p. 206.
- Mud-banks of Bay of Fundy, how deposited, (77-78) p. 21 EE.
- Mud Bay, Templeton, Que., banded veins of apatite, with wood-cuts showing, (77-78) pp. 8-9 G.
- Mud Creek, Telegraph trail, B.C., vegetation in vicinity of, (75-76) p. 130.
- Mud-flats in upper part of Bay of Fundy, (77-78) p. 22 EE.
- Mud Lake, Addington, Ont., escarpment of base of Trenton Group, (1863) p. 179.
- Mud Lake, Lanark Tp., Ont., tremolitic dolomite near, (74-75) p. 147.
- Mud Lake, Pic River, Algoma, red granite, gray gneiss, (70-71) p. 333.
- Mud Lake, Rideau River, Ont., iron-ore from South Crosby Tp., Ont., (66-69) E. p. 257, F. p. 285.
- Mud Lake Creek, western New Brunswick, old pre-glacial channel near, (82-84) p. 11 GG.
- Mud River, branch of Pine River, crossed by trail, size of, (79-80) p. 48 B.
- Mud Turtle Lake, Somerville Tp., Ont., base of the Trenton escarpment exposed at, (1863) p. 190.
- Muddy Creek, north of Dunvegan, Alta., description of country drained by, (79-80) p. 59 B.
- Mudge Island, B.C., rocks at, (76-77) p. 183.
- Mudgee-Manitou Lake, Manitoulin Island, Ont., (66-69) E. p. 109, F. p. 123.
- Muir, Mr., referred to, (76-77) p. 191.
- Mull River, Inverness Co., N.S., pre-Cambrian rocks of, (79-80) p. 32 F.
 George River, limestones of, (82-84) p. 33 H.
 Lower Carboniferous limestones, etc., of, (82-84) p. 49 H.
- Mullach Brook, Inverness Co., N.S., the crystalline limestone area, iron-ore of, (82-84) p. 34 H.
 sandstones of Lower Carboniferous in contact with pre-Cambrian, (82-84) p. 42 H.
- Mullach crystalline limestone area, Inverness Co., N.S., (82-84) p. 34 H.
- Mullach and Whycocomagh felsites of Skye and Salt Mts., and McKay Brook, N.S., (82-84) p. 7 H.
- Mullcuish Lakes, N.S., felsite on road to Belfry Lake, (77-78) p. 9 F.
- Mullin's garnet mine, Wakefield, Que., note on, (80-82) p. 13 GG.
- Mullin's coal-seam, Sydney Harbour, N.S., thickness and analysis of, (74-75) pp. 192-193.
- Mulmur Tp., Ont., outcrop of Niagara Formation, note on cliffs of, (1863) p. 328.
- Mundic, *see* iron pyrites.
- Mundorf's, Bonaparte River, B.C., rocks along road, (77-78) pp. 93-94 B.
- Mungo Brook, Bay of Chaleurs, silicious conglomerate near, (1863) p. 449.
- Muniac River, N.B., sections of terraces in valley of the St. John River, at mouth of, (82-84) p. 32 GG.
- Munquart River, St. John River, N.B., terraces formed in valley of St. John by, (82-84) p. 31 GG.
- Murchison Island, Q.C. Is., B.C., description of, (78-79) p. 22 B.
 volcanic rocks and argillites of, (78-79) p. 60 B.
- Murchisonia Anna*, Billings, wood-cut of, (1863) p. 119.
- Murchisonia Arachne*, Billings wood-cut of, (1863) p. 145.
- Murchisonia arenaria*, Billings, wood-cut of, (1863) p. 120.
- Murchisonia bellicincta*, Hall, wood-cut of, (1863) p. 183.
- Murchisonia bivittata*, Hall, wood-cut of, (1863) p. 339.
- Murchisonia Boydii*, Hall, wood-cut of, (1863) p. 339.
- Murchisonia gracilis*, Hall, wood-cut of, (1863) p. 183.
- Murchisonia linearis*, Billings, wood-cut of, (1863) p. 119.
- Murchisonia macrospira*, Hall, wood-cut of, (1863) p. 339.
- Murchisonia serrulata*, Salter, wood-cut of, (1863) p. 145.
- Murchisonia Vesta*, Billings, wood-cut of, from Phillipsburgh, Que., (1863) p. 276.
- Murchison Rapids, North Thompson River, B.C., photographs taken, (71-72) p. 46.
- Murcia, Spain, analysis of apatite from, (77-78) p. 11 H.

- MURDOCK, WM., C.E., presentation of fossils from St. Andrews, Man., (78-79) p. 26 C.
- Murphy North Brook and Murphy South Brook, George River, N.S., sections of crystalline limestone, (75-76) pp. 382-383.
- Murphy's mine, Templeton, Que., note on, work done at, (80-82) p. 11 GG.
- Murphy Point, N.S., limestone and gypsum of, (76-77) p. 442.
- MURRAY, A., sketch of work performed by, previous to 1863, (1863) p. iii.
- surveys in Gaspé, Que., in 1844-1845, (1863) p. 10 Atlas..
- surveys of Upper Ottawa in 1847 and 1853-56, and on Lake Huron, (1863) p. 11 Atlas.
- surveys on Lake Huron, including rivers, 1847-1848, (1863) p. 11 Atlas.
- investigations of, in Frontenac, Leeds and Lanark Cos., Ont., referred to, (72-73) p. 137.
- on dykes in Kennebec Tp., Ont., (72-73) p. 149.
- levels of lakes in Frontenac and Addington Cos., Ont., (72-73) p. 174.
- extract from report of, on limestone at Gold Lake, Ont., (73-74) p. 108.
- extract from report on Wolf Lake iron-ore deposits, Frontenac Co., Ont., (74-75) p. 117.
- explorations on Upper Silurian Formation of Western Ontario, referred to, (76-77) p. 239.
- exploration of on Bonnechère River, Ont., extract from, (76-77) p. 265.
- report referred to, on work in Eastern Ontario, (76-77) pp. 269-271.
- description of St. John River, Gaspé Co., Que., quoted, (80-82) pp. 11-12 DD.
- reference to surveys made in Gaspé, Que., (82-84) p. 6 E.
- MURRAY, DR. G., cited, character of coal-seams at Port Hood, N.S., (76-77) p. 469.
- Murray Bay, Que., note on occurrence of Potsdam sandstone at, (1863) p. 96.
- calciferous sandstone, probably of Calciferous Formation, (1863) p. 119.
- the Trenton limestones, etc., at, (1863) p. 162.
- list of fossils collected in Trenton Group at, (1863) p. 163.
- Trenton Group resting on undenuded rocks, (1863) p. 290.
- green compact fluor-spar found at, (1863) p. 463.
- quartzose conglomerate used for millstones, noted at, (1863) p. 808.
- limestones suitable for building purposes, (1863) p. 819.
- rocks suitable for flagging, (1863) p. 829.
- description of superficial deposits at, (1863) p. 922.
- Murray Bay River, Que., position of Trenton rocks on, (1863) p. 163.
- Muscalunge Lake, N.Y., calcite and fluor-spar vein, (63-66) p. 186.
- Muscovite, general note on occurrences, analysis of, (1863) p. 494.
- not found in apatite-bearing rocks of Ottawa Co., Que., (77-78) p. 26 G.
- Museum of Survey, sketch of arrangement and classification, 1863, (1863) pp. xiii-xv.
- note on expenditure of 1869, on building, (69-70) p. 11 Summ.
- arrangement of, work done in 1870 on, (70-71) p. 10.
- space reserved for economic minerals, (70-71) p. 11.
- number of visitors for 1873, additions by donation and purchase, (73-74) pp. 4-5.
- arrangement of specimens, sample of descriptive label, (74-75) p. 10.
- large collection of Mesozoic fossils from Pacific coast, (74-75) p. 12.
- rearranged during 1875, (75-76) p. 6.
- progress of work in for year 1876-77, (76-77) p. 5.
- additions to, for 1876-77, (76-77) p. 6.
- visitors to, for 1876-77, (76-77) p. 8.
- additions to during 1877-78 and visitors to, (77-78) p. 9.
- number of visitors in 1879, (78-79) p. 6.
- number of visitors in 1880, (79-80) p. 9.
- removal to Ottawa, cost, etc., (80-82) pp. 1-2.
- suggestion for extension of, (80-82) p. 2.
- work done in re-classifying fossils, (80-82) p. 22.
- note on rearrangement and classification of fossils, 1883, (82-84) p. 17.
- Muskoka, Ont., garnetiferous gneiss in, (76-77) pp. 269-271.
- Muskoka Lake, Ont., good land around, (76-77) p. 196.
- Muskoka River, Ont., garnet-gneiss of, referred to, (1863) p. 46.
- clay deposits on, (1863) p. 907.
- blotched diorite on Partridge Inlet, (76-77) p. 205.
- absence of limestone on, (76-77) p. 275.
- Muskrat Brook, Middle River, N.S., pre-Cambrian rocks of, (82-84) p. 32 H.
- MUSPRATT, DR., analysis of mineral-water referred to, (63-66) p. 280.
- Musquash Harbour, N.B., rocks of eastern side, Laurentian, (70-71) p. 46.
- rocks of western side, Laurentian, (70-71) p. 47.
- section of narrow trough of Devonian rocks, (70-71) p. 96.
- Huronian rocks overlying St. John Group, (70-71) p. 60.
- rocks resembling St. John Group on, (70-71) p. 136.
- fault crossing mouth of, (70-71) p. 180.
- pearl-spar crystals at, (70-71) p. 237.
- assay of galena from, (77-78) p. 52 G.
- to Lepreau, N.B., description of Devonian rocks, (78-79) pp. 1-12 D.
- Musquash marsh, Bay of Fundy, alluvial deposit of, (77-78) p. 36 EE.

- Musquash, Parish of, N.B., gravel-ridges in, (77-78) p. 13 EE.
- Mushquash River, N.B., and eastern branch of, Kingston Group on, (70-71) p. 124.
- Musquodoboit, N.S., statistics of gold for 1869-71, (71-72) p. 150.
 assay of mispickel from, for gold and silver, (79-80) p. 18 H.
- Mya arenaria*, Linn., wood-cut of, (1863) p. 963.
- Mya truncata*, Linn., wood-cut of left valve, (1863) p. 963.
- Mycetophilidae* of Tertiary beds of Quesnel, B.C., (75-76) pp. 271-272.
- Mysterious properties belonging to chiefs, Haida Indians, (78-79) p. 120 B.
- Mytilus edulis*, Linn., wood-cut of left valve, (1863) p. 963.
- Naeawicac River, York Co., N.B., exposures of slates and sandstones, (82-84) p. 20 G.
 kames near mouth of, description of, (82-84) p. 23 GG.
 section of terrace on, (82-84) p. 40 GG.
- Nachvak Inlet, Labrador, description of, with illustration, (82-84) pp. 14-16 DD.
 date of arrival of cod-fish in, (82-84) p. 20 DD.
- Na-coont-loon Lake, B.C., description of lower part, (76-77) p. 36.
- Nacreous slates, general description, with analyses, (1863) pp. 601-602.
 of Snake Brook, N.S., (76-77) p. 422.
- Naden Harbour, Virago Sound, Q.C. Is., plan of, scale 2 knots = 1 in., (78-79) facing p. 15 B.
 description of, (78-79) p. 38 B.
 rocks of Tertiary age in, (78-79) p. 89 B.
 bluish clays, probably glacial, (78-79) p. 94 B.
 raised beaches and shell-heaps, with list of species of shells found in, (78-79) p. 95 B.
 hollow left by glacier, occupied by waters of, (78-79) p. 100 B.
 latitude observations at, (78-79) p. 236 B.
- Naden Point, Graham Island, Q.C. Is., character of coast at, (78-79) p. 39 B.
- Naden River, Q.C. Is., description of, (78-79) p. 38 B.
- Na-di-na Mountain, B.C., situation of, character of slopes of, (76-77) p. 49.
 rocks of, (76-77) p. 88.
- Na-di-na-ko River, François Lake, B.C., size of, (76-77) p. 49.
- Nads-il-nich Lake, B.C., ridges on either side of, (75-76) p. 245.
- Nahmanitigon River, Ont., red, blue and buff clays on, (1863) p. 906.
- Naiadites shales of Coal Measures of Nova Scotia, (74-75) pp. 196-200.
- Nai-koon, Rose Point, Graham Island, Q.C. Is., description of, (78-79) p. 34 B.
- Nai-koon, Indian village, abandoned, situation of, (78-79) p. 164 B.
- Nain, Labrador, description of rocks of vicinity, ores, timber and plants, (82-84) pp. 11-14 DD.
 list of plants, (82-84) pp. 38-47 DD.
- Nairne Lake, near Murray Bay, Que., outliers of Trenton Formation, (1863) p. 163.
- Nakatl Mt., north-east of Stuart Lake, B.C., height of, (79-80) p. 25 B.
- Naltesby Lake, B.C., angular blocks of slate, white quartz, (75-76) p. 77.
 on old telegraph trail, flora observed in vicinity of, (75-76) p. 131.
- Namakon Lake, west of Fort William, Ont., gneiss and mica-schist at, (73-74) p. 88.
- Namannitigong River, Ont., termination of Nipissing road band of limestone, (76-77) p. 206.
- Names of places in vicinity of Bow and Belly rivers, with Indian equivalent for, (82-84) pp. 158-167 C.
- Names, Indian, method of spelling of, (76-77) p. 18.
- Named a son, usage followed by Haida Indians, (78-79) p. 131 B.
- Nanaimo, B.C., Vancouver Coal Company's mine, section, coal-seams, extent of workings, (71-72) p. 86.
 list of fossil plants from, (71-72) p. 98.
 analysis of coal from seams near, (71-72) p. 99.
 analysis of brine from, (72-73) p. 82.
 coal measures at, note on, (76-77) p. 121.
 Vancouver Coal Company's wharf, with United States gun-boat, illustration, (76-77) facing p. 170.
 division of coal-bearing rocks of, (76-77) p. 171.
 shipment of coal from, during 1876, (76-77) p. 179.
 analysis of coal by Prof. Whitney, (76-77) in table facing p. 470.
 fossiliferous clays near, list of fossils, (78-79) p. 98 B.
 analysis and calorific power of coal from Wellington mine, output of mines in 1883-84, (82-84) pp. 37-38 M.
- Nanaimo coal, description of by Robt. Brown, (72-73) p. 80.
- Nanaimo coal-bearing rocks referred to Chico Group, (72-73) p. 75.
- Nanaimo coal-field, B.C., report by James Richardson on, (71-72) pp. 81-89.
 area of, (71-72) p. 87.
 thickness of measures, (71-72) p. 89.
 report on surveys made during 1873 by Jas. Richardson, with notes on economic resources of, (73-74) pp. 94-102.
 places visited in 1874, (74-75) p. 82.
 report by Jas. Richardson, (76-77) pp. 170-187.
 total thickness of measures of, (76-77) p. 186.
 diagrammatic section of, on map accompanying report, (76-77)
 map of, scale 4 m. = 1 in. accompanying, (76-77)

- Nanaimo and Comox coal-fields, reference to the fossils of, illustrated in Can. Mez. Fossils, (77-78) p. 7.
- Nanaimo Colliery, coal shipments, 1876, (76-77) p. 179.
- Nanaimo Harbour, B.C., situation of, rocks of section, (71-72) pp. 83-85.
building stones from, (71-72) p. 84.
- Nanaimo mine, Nanaimo, B.C., upper seam, analysis of coal, (71-72) p. 99.
- Nanaimo River, B.C., coal-seams on, (71-72) p. 86, and (73-74) p. 98.
locality for bituminous coal, (76-77) p. 144.
coal-seam on, section of, (76-77) p. 181.
list of fossils collected at $2\frac{1}{2}$ miles up, (73-74) p. 262.
new species of fossils collected, (73-74) p. 268.
list of fossils from 10 miles up, (73-74) p. 262.
new sp., *Lucina Richardsonii*, Whiteaves, described, (73-74) p. 266.
- Nanoose Bay, B.C., rocks of Blunden Point, (71-72) p. 81.
crystalline rocks of, diorites, etc., (71-72) p. 89.
coal-bearing rocks near, (76-77) p. 170.
- Napierville Co., Que.:
for rocks and minerals of see *Part I*, p. 10.
- Nantucket Island, off Grand Manan Island, quartzites and slates of, (70-71) p. 109.
- Napadaugon River, N.B., staurolite-schists, (82-84) p. 22 G.
- Napan River, N.B., character of coal found on, (80-82) p. 5 D.
- Napanee, Ont., stratified clays of, (1863) p. 904.
statistics of hydraulic cement produced to 1871, (71-72) p. 147.
- Naphtha and benzole, sources of, properties of, (1863) p. 790.
- Naquarea River, Que., exposures of Trenton Group on, (1863) p. 148.
- Narrow Ridge Lake, Que., position of, (70-71) p. 284.
area of good timber, (70-71) p. 301.
hills near Patricks Mt., (70-71) p. 301.
- Narrows of Lake Manitoba, rock exposures, (74-75) p. 37.
- Narrows of Nipisiguit River, N.B., character of rocks at, (79-80) p. 27 D.
- Narrows of North-west Miramichi River, N.B., illustration showing, (79-80) facing p. 28 D.
- Narrows of Okanagan Lake, B.C., depth of water, gravel spits, (77-78) p. 56 B.
- Narrows of St. John River, N.B., section of Laurentian on east side, (70-71) p. 36.
distribution of Laurentian on west side, (70-71) p. 36.
section on west side of, (70-71) p. 37.
- Nash's brewery, Whitby Tp., Ont., outcrop of Utica shale, (1863) p. 210.
- Nashwas River, York Co., N.B., rocks at falls and Esty's bridge, (66-69) E. p. 183, F. p. 202.
- Nashwaak or Nashwauk River, N.S.:
exposures of rocks near Stanley Bridge, (66-69) E. p. 186, F. p. 205.
slate and quartzites on, (66-69) E. p. 189, F. p. 209.
red and green slate, survey of section, (70-71) p. 245.
contact of granites and slates, York Co., N.B., (70-71) p. 247.
Cambro-Silurian rocks of, (82-84) p. 22 G.
description of kames in valley, (82-84) p. 24 GG.
section of terraces near mouth of, (82-84) p. 39 GG.
- Nassagaweya Tp., Ont., distribution of Niagara rocks, exposure at McNaughton's farm, (1863) p. 327.
western limit of Niagara Formation, (1863) p. 330.
deposits of ochre in, (1863) p. 770.
- Nasse-Skeena district, B.C., coal-beds reported in, (76-77) p. 146.
- Nastapoka Islands, Hudson Bay, general description of structure, (77-78) p. 12 C.
general description, sections on Belanger, Nastapoka and Davieau Islands, (77-78) pp. 15-18 C.
rocks suitable for flagstones, (77-78) p. 24 C.
- Nastapoka Sound, Hudson Bay, note on, (75-76) p. 324.
- Na-tal-kuz Indian village, Babine Lake, situation of, (79-80) p. 26 B.
- Na-tal-kuz Lake, B.C., physical description of, (76-77) p. 41.
rocks near, (76-77) p. 71.
- Na-tal-kuz Mountains, Babine Lake, B.C., terraces on, (79-80) p. 137 B.
- Natamasagami Lake, White River, Algoma, size of, islands, (70-71) p. 344.
fossiliferous boulders in drift, (70-71) p. 349.
- Na-tan-iko River, B.C., situation of, (76-77) p. 20.
- Na-taw-tin Indians of Babine Lake, number of, (79-80) p. 30 B.
- Natica clausa*, Sowerby, wood-cut of, (1863) p. 964.
- Natica Grœnlandica*, Mull., wood-cut of, (1863) p. 964.
- Natica helicoides*, Johnston, wood-cut of, (1863) p. 964.
- Nation River, B.C., junction with Parsnip, description of, (75-76) p. 40.
illustration, (75-76) facing p. 71.
- Native copper, note on mode of occurrence in amygdaloidal trap of Lake Superior, (1863) p. 71.
in Barford Tp., Que., quartz-veins in Gaspé Series, (1863) p. 437.
from Battle Islands, Lake Superior, (1863) p. 707.

- Native copper—*Cont.*
 of Grand Manan Island, reported from trap (Triassic) (70-71) p. 221.
 at Mamainse, Lake Superior, ancient workings for, (1863) p. 701.
 occurrence of in Marmora Tp., Ont., (74-75) p. 162.
 in Michigan, in conglomerate of, (63-66) p. 157.
 Michipicoten Island, Ont., on north and west shore, (63-66) p. 137.
 at Prince's mine, Lake Superior, (1863) p. 708.
 on St. Ignace Island, Lake Superior, (1863) p. 706.
 reported from Wabigoon Lake, Ont., (80-82) p. 14 C.
- Native Silver, general note with reference to localities, (1863) p. 738.
 small pellets found in gold placers in British Columbia, (77-78) p. 162 B.
 in Grand Portage mine, Michigan, (63-66) p. 161.
 from Port Arthur, Ont., (72-73) p. 110.
 at Prince's mine, Lake Superior, (1863) p. 708.
 reported found in drift of Mackenzie River, Pleasant Bay, N.S., (82-84) p. 97 H.
 in 3 A mine, Thunder Bay, Ont., (72-73) p. 109.
- Native tobacco, cultivated on Queen Charlotte Islands, (78-79) p. 114 B.
- Natrolite, occurrence of near Port George, N.S., (82-84) p. 25 L.
 in Montreal traps, (1863) p. 481.
 from dykes, Montreal Mt., analysis of, (74-75) p. 303.
- Natural gas, origin, relation to coal and petroleum, (63-66) p. 259.
 chemical formulas accounting for origin, (63-66) p. 259.
 influencing flow in wells, (63-66) p. 259.
- Natural history of the plains, notes on mammals, birds and fishes, (73-74) pp. 61-62.
 collections of Survey officers placed with McGill University and Natural History Society of Montreal, (80-82) p. 2.
 publications on, issued by Survey during 1883-84, (82-84) p. 25.
- Natural waters of Red and Assiniboine rivers, Man., 1879, analysis of, (78-79) pp. 10-11 H.
- Naumanns Lehrbuch, definition of melaphyres, quoted, (63-66) p. 159.
- Nautilus*, range of genus, notes on Q.C. Is. species, (72-73) p. 74.
- Nautley or Fraser Lake, B.C., general description of, (76-77) pp. 45-46.
- Navigation on Bow River, Alta., limit of, (82-84) pp. 29, 34 C.
- Navigation of Hudson Bay, note on, (79-80) p. 35 C.
 table showing arrival and departure of vessels at York and Moose Factories, 1735-1880, (79-80) pp. 84-92 C.
- Navigation of lower part of Nelson River, note on, (77-78) p. 11 CC, and (79-80) p. 30 C.
- Navigation on Red River, date of closing in 1873, (73-74) p. 58.
- Navigation of Skeena River, B.C., by steamboat, (79-80) p. 12 B.
- Navy Island, St. John Harbour, N.B., peat deposits, plants found in, (77-78) BB.
- Navy trials, of Pictou coal, *see* American Navy trials.
- Nazco River, B.C., report on exploration by G. M. Dawson, (75-76) pp. 240-265.
 general description of valley from Temapho Lake to junction with Blackwater River, (75-76) pp. 241-243.
 illustration showing mounds and ridges in valley of, (75-76) facing p. 242.
 Lower Cache Creek group of rocks, seen only on head-waters of, and at eight miles from mouth, (75-76) p. 248.
 note on occurrence of porphyritic rocks on, (75-76) p. 252.
 notes on rocks of Jackass Mt. Group, (75-76) pp. 254-255.
 drift lignite in valley below Ciaderella Mt., building stone, (75-76) p. 255.
 character of basalt rocks of, (75-76) p. 261.
 glacial striation of, (75-76) p. 261.
 boulders of basalt at sources of, (75-76) p. 262.
 travertine deposits on, nitre in cavities in, (75-76) p. 264-265.
 drift lignite on, (76-77) p. 146.
- Nebria paleomelas*, Scudder, description of from Tertiary of Nicola River, B.C., (77-78) p. 178 B.
- Nechacco River basin, B.C., note on area of, agricultural possibilities of, (79-80) p. 30B.
- Nechacco River, B.C., good land at crossing of, (75-76) p. 32.
 width at trail crossing, (75-76) p. 33.
 meadow plants resembling Ontario flora, (75-76) p. 132.
 gravel deposits above lignite formation, (75-76) p. 264.
 report on and map accompanying, (76-77) pp. 17-149.
 south-eastern sources of, (76-77) p. 39.
 Mesozoic rocks on, (76-77) pp. 71-72.
 gold on, (76-77) p. 142.
 lignite from, (76-77) p. 467.
 lower part of, general description of, (76-77) p. 52.
 rocks of, (76-77) pp. 57, 72.
 Tertiary rocks on, (76-77) p. 82.
 upper part, country near, (76-77) p. 39.
 size of stream below Na-tal-kuz Lake, B.C., moraines in valley, (76-77) p. 42.
 near Fraser Lake, B.C., general description of, (76-77) p. 44.
 lignite on, (76-77) p. 82.
- Nechacco Series of British Columbia, age, fossils, character of rocks, (76-77) pp. 72-74.
 relations of, general conclusions, (76-77) p. 90.

- Nechacco Series of British Columbia—*Cont.*
probable extent northward between Stuart
and McLeod Lakes, (79-80) p. 107 B.
occurrence of on Fraser River, (76-77) p. 57.
- Ne-coon, abandoned Indian village, Q.C. Is.,
situation of, (78-79) p. 165 B.
- Nectocorangon lar*, Brandt, note on specimens
from Vancouver Island, (78-79) p. 212 B.
- Neepigon, *see* Nipigon.
- Negro Brook, Southampton Parish, N.B., bed of
limestone near, (82-84) p. 19 G.
- Negro Harbour, N.B. quartzites and chlorites,
schists of Coastal Group, (70-71) p. 92.
- Negro Lake, St. John Co., N.B., syenite ridge
running to St. Martin, (70-71) p. 63.
- Negro settlement, St. John Co., N.B., rocks ex-
posed in, (70-71) p. 63.
- Negundo aceroides*, Mönch, note on northern
limit of in Canada, (79-80) p. 48 C.
- Neigette River, Que., synclinal band of green
sandstone, (1863) p. 261.
boulders travelled northward in, (1863)
p. 893.
- Neigette Tp., Rimouski, Que., base of Gaspé
limestones in, (1863) p. 418.
- Neil Cove, Mira Bay, N.S., Carboniferous con-
glomerate and limestone at, (77-78) p. 23 F.
- Neil McCuish's clearing, Inverness Co., N.S.,
limestone in brook at, (79-80) p. 99 F.
- Neils Brook, Victoria Co., N.S., rocks of, (82-84)
p. 18 H.
- Neill's gold-mine, Marmora, Ont., vein traced
by H. G. Vennor, 1867, geological position
of, (71-72) pp. 139-140.
- Neils Harbour, N.S., rocks of, (82-84) p. 18 H.
- NELSON, J. C., description of cairn on Sun-dial
Hill, Alta., (82-84) p. 28 C.
- Nelson House, Burntwood River, Keewatin, list
of coleoptera collected by Wm. Isbister,
(80-82) pp. 36-38 C.
- Nelson River, Keewatin, view down, from near
Clearwater River, (77-78) frontispiece
Part CC.
general description of lower and upper part,
(77-78) pp. 10-18 CC.
notes on character of channel, velocity of
stream, navigation at mouth of, (77-78)
pp. 10-11 CC.
character of surveys of made by R. Bell,
(77-78) p. 13 CC.
effect of ice in bed of, near mouth, (77-78)
p. 12 CC
description of upper portion of, character of
country, volume of water, (77-78)
pp. 13-14 CC.
view showing southern channel of White
Mud fall, (77-78) facing p. 14 CC.
fall in river to Sipi-wesk Lake, (77-78)
p. 14 CC.
channel excavated on line of great trap
dyke, (77-78) p. 15 CC.
list showing strike of gneiss at places on
upper part of, (77-78) pp. 16-17 CC.
- Nelson River, Keewatin—*Cont.*
character of surface of country at head of,
(77-78) p. 18 CC.
on the clay deposits of lower part, (77-78)
p. 24 CC.
evidence at mouth of subsidence of Hudson
Bay, (77-78) p. 25 CC.
list of glacial striæ on, (77-78) p. 28 CC.
notes on climate and timber, (77-78)
pp. 28-31 CC.
warm water of, influencing the climate,
(77-78) p. 30 CC.
map of on scale 8 m. = 1 in. accompanying,
(77-78) Part CC.
note on explorations in 1879, soil and climate,
(78-79) p. 3.
report on explorations of 1879 by R. Bell,
(78-79) pp. 1-44 C.
between Split Lake and Goose Hunting
River, description of, geological note,
(78-79) pp. 12-14 C.
to Little Churchill River, description of
route, (78-79) p. 14 C.
view up at point sixty miles from sea, (78-79)
facing p. 23 C.
report on completion of track-survey, by
R. Bell, (78-79) pp. 23-27 C.
pre-glacial channels of, channel along great
dyke, (78-79) p. 24 C.
age of limestones and dolomites of, (78-79)
p. 26 C.
below Gull Lake, general description of,
(78-79) p. 26 C.
list of glacial striæ observed on, (78-79)
p. 39 C.
notes on fossils from 1st, 2nd and 3rd Lime-
stone Rapids of, (78-79) pp. 47-48 C.
list of plants collected by R. Bell, (78-79)
pp. 53-60 C.
list of fresh-water mollusca collected from,
(78-79) pp. 61-62 C.
list of lepidoptera from, (78-79) pp. 63-64 C.
list of coleoptera collected by R. Bell,
(78-79) pp. 65-66 C.
list of birds collected near, (78-79) pp. 67-70 C.
variation of compass at points along, (78-79)
p. 72 C.
navigation of lower part, note on, (79-80)
pp. 29-30 C.
surveys made for railway location in valley
of, (79-80) p. 33 C.
list of plants from Cross Lake, collected in
1880, (79-80) pp. 59-69 C.
list of plants from, common to Lake Super-
ior, giving their range westward, (79-80)
p. 67 C.
list of plants which extend south to prairies,
also those which are found in U.S.A.,
(79-80) p. 68 C.
list of plants from, common to Gulf of St.
Lawrence, giving range westward, (79-80)
p. 68 C.
plants of, indicate climate, similar to that
at Quebec, (79-80) p. 69 C.
analyses of water of by Prof. Dittmar,
(79-80) pp. 78-79 C.
- Nelson Creek, east of Okanagan, B.C., lime-
stone anticline, (77-78) p. 103 B.

- Nelson Tp., Que., copper-ore reported in, (1863) p. 719.
localities for copper-ores, (63-66) p. 320.
- Neozoic, deposits of Manitoba, west of Lake Winnipegosis, (74-75) pp. 62-63.
- Nepean Tp., Ont., the Potsdam sandstone in, character of and attitude of beds, (1863) pp. 93-94.
Chazy limestone in, (1863) pp. 127, 129.
Trenton rocks exposed in, (1863) p. 174.
analysis of dolomite from, (1863) p. 619.
areas of peat noted, (1863) p. 780.
reference to analysis of magnesian limestone from, analysis of cement made from, (1863) p. 806.
quarry in sandstone for building stone used in Parliament buildings, Ottawa, (1863) p. 813.
highest deposit of marine shells in, (1863) p. 924.
- Nepheline, found with sodalite in Brome, Que., and on Pic Island, Lake Superior, (1863) p. 480.
- Nepisiguit River, *see* Nipisiguit River.
- Nequaquon Portage, on Dawson route, west of Lake Superior, mica-schist and gneiss at, (73-74) p. 88.
- Nerepis granite region, N.B., details of exposures, (70-71) pp. 183-190.
- Nerepis River, N.B., crystalline rocks resembling Laurentian in valley of, (70-71) p. 53.
exposures of Huronian rocks on upper part of, (70-71) p. 66.
Huronian felsites on road from Coot Hill, south branch, (70-71) p. 67.
Huronian Series, on lower part of, (70-71) p. 112.
details of St. John Group in valley of, (70-71) p. 142.
Upper Silurian of upper part of, (70-71) p. 168.
fault at mouth of, (70-71) p. 180.
veins of sphatic iron-ore in valley of, (70-71) p. 223.
limestones at mouth of, (70-71) p. 232.
Lower Carboniferous belt crossing, (72-73) pp. 187-188.
exposures of Carboniferous limestones, fossiliferous, (72-73) p. 216.
coal-seams at head of, (72-73) pp. 217-218.
character of boulder-clay deposits in valley of, (77-78) p. 2 EE.
- Nerepis road, near Coot Hill, N.B., deposit of iron-ore referred to, (73-74) p. 229.
- Nerepis Station, N.B., Upper Silurian rocks north of, section, (70-71) p. 165.
granulite ridge of pre-Silurian rocks near, (77-78) p. 27 DD.
- Ne-tal-tzul Mountains, Babine Range, B.C., sketch showing, (79-80) facing p. 114 B.
height of, (79-80) p. 23 B.
- Ne-ti-kun-as-ko River, B.C., sizes of branches crossed by trail, (76-77) p. 33.
- Ne-to-bun-kut or François Lake, B.C., general description of, (76-77) p. 47.
- Neuroptera of Tertiary beds of Quesnel, B.C., (75-76) p. 280.
- Neustadt, Ont., exposure of Onondaga at, (1863) p. 351.
note on superficial deposits of vicinity, (1863) p. 900.
- Nevada plants found in British Columbia, on Fraser River, at Spence's Bridge and Cache Creek, (75-76) p. 123.
- NEVILLE, P., work by in Sydney coal-fields, N.S., (74-75) p. 168.
- NEWBERRY, J. S., referred to, on petroleum of Kentucky, (63-66) p. 253.
quoted on importance of investigating coal-fields, (79-70) p. 4 Summ.
- Newborough, Ont., Potsdam sandstone with *Lingula*, (1863) p. 93.
plant remains in clay of, (1863) p. 904.
- New Boston road, Cape Breton Co., N.S., Lower Silurian on, (77-78) p. 11 F.
- New Brunswick, note on geological work done previous to 1863, (1863) p. 15 Atlas.
work done in 1868 by Charles Robb, (68-69) p. 6 Summ.
by Bailey and Matthew, (68-69) p. 7 Summ.
summary of work done in 1869, (69-70) p. 7 Summ.
announcement of supplementary report by Chas. Robb, (70-71) p. 2.
work of 1870 by L. W. Bailey and G. F. Matthew in southern part, (70-71) p. 2.
area examined by Bailey and Matthew in 1868-69-70, (70-71) p. 13.
soils of south-eastern part, (70-71) p. 18.
first geological reports on, referred to, (70-71) p. 18.
report on northern part, by Gesner, referred to, (70-71) p. 19.
geological map by Dr. Gesner of 1841, not published, (70-71) p. 21.
first geological map published by Dr. Robb, 1850, (70-71) p. 21.
earlier papers on geology of, by J. W. Dawson, referred to, (70-71) p. 22.
progress of geological investigation for 1871, (71-72) pp. 142-145.
work by T. Sterry Hunt, with L. W. Bailey, 1871, (71-72) p. 142.
work on map of southern part, (71-72) p. 142.
age of formations in, work of determination, (71-72) pp. 142-143.
record of mines and mineral statistics for 1869-71, (71-72) p. 151.
first report on coal formations, first coal mining, (72-73) p. 180.
report on Carboniferous of Queens, Sunbury and part of York Cos., (72-73) pp. 180-230.
first coal mining in, referred to, (72-73) p. 204.
thickness of Middle and Upper Carboniferous in, (72-73) pp. 221-223.
economic minerals of central part, (72-73) pp. 227-230.

- New Brunswick—*Cont.*
 summary of investigations carried on during summer of 1873, (73-74) p. 8.
 clay-ironstone in Carboniferous, note on occurrence of, (73-74) p. 240.
 blast-furnaces, list of and notes on, (73-74) pp. 246, 251-252.
 summary of work by Bailey and Matthew in 1874, (74-75) pp. 84-89.
 progress of work in 1876, (76-77) p. 4.
 summary of surveys made during 1877-78, (77-78) p. 6.
 report on superficial geology of southern part, by G. F. Matthew, (77-78) pp. 1-36 EE.
 summary of explorations during 1879, (78-79) p. 4.
 exploratory work of the Survey in 1880, (79-80) p. 6.
 explorations in during 1881 by R. W. Ells and W. Broad, (80-82) p. 6.
 summary of explorations by Ells and Broad for 1882, (80-82) pp. 19-20.
 report on geology of northern and eastern part by R. W. Ells, (80-82) pp. 1-24 D.
 coast of, note on general character, (80-82) p. 4 D.
 progress of surveys in during 1883, (82-84) pp. 13-14.
 plants, animals, fish and fresh-water molluscs of, partial list by R. Chalmers, (82-84) pp. 44-46 GG.
 maps of part of, Fredericton, Buctouche and Charlottetown Map-sheets published in 1884.
for geology of separate counties see Part I, pp. 6-7.
- New Brunswick Red Granite Company, quarries of, (76-77) p. 348.
- New Campbellton, N.S., probable fault continued from Newfoundland, (70-71) p. 4.
 section given by Hartley of coal area, (70-71) pp. 4-5.
 coal-seams in Millstone Grit, (74-75) p. 194.
 diagrammatic section of measures at, (74-75) facing p. 266.
 to St. Annes Mt., section of strata, (74-75) pp. 252-255.
- New Campbellton mines, N.S., general description of area, quality and quantity of coal, (73-74) pp. 184-185.
 surface and underground works, (73-74) p. 186.
 total quantity of coal shipped to date, (73-74) p. 187.
- New Carlisle, Bay of Chaleurs, Bonaventure Formation exposed on coast near, crystalline rocks, (1863) p. 446.
 deposit of marl near, (1863) p. 766.
 Lower Carboniferous resting on Silurian slates, (80-82) p. 8 D.
 Silurian rocks exposed at base of cliff, (80-82) p. 14 D.
 Silurian shales cut by dykes, (80-82) p. 19 D.
 deposits of shell-marl near, (80-82) p. 20 D.
- Newcastle, N.B., examination of sandstone from, specific gravity and absorbing power of, (82-84) p. 2 MM.
- Newcastle Bridge, N.B., report of boring operations, with section of bore, (72-73) pp. 231-237.
 second report on boring operations, (74-75) pp. 90-93.
 thickness of Middle Carboniferous, (74-75) p. 90.
 depth of borings No. 2 and 3, (74-75) p. 91.
 character of Carboniferous rocks bored through, (74-75) p. 91.
 record of boring No. 2, (74-75) pp. 94-95.
 record of boring No. 3, (74-75) p. 96.
- Newcastle coal, of Eng., smoke-trials of by Navy, (66-69) E. pp. 428-430, F. p. 477.
 compared by analyses with Springhill coal, N.S., (66-69) E. p. 446, F. p. 498.
- Newcastle District, N.B., fire-clays from, character of, (72-73) p. 228.
- Newcastle Island, Nanaimo Harbour, B.C., section of coal measures, (71-72) p. 83.
 sandstones of, building stones, (71-72) p. 84.
 coal-seams of, (71-72) p. 85.
 analysis of coal from upper seam, (72-73) p. 78.
 section at, (76-77) p. 172.
- Newcastle Map-sheet, map of part of Northumberland Co., N.B., scale 4 m. = 1 in., with report, (80-82) Part D.
- Newcastle River, Grand Lake, N.B., Lower Carboniferous at forks of, (72-73) p. 195.
 sections of Lower and Middle Carboniferous on, (72-73) pp. 198-200.
 coal outcroppings on, (72-73) p. 200.
 upper limit of barren measures on, (72-73) p. 200.
 descriptions of excavations for coal on, (72-73) pp. 200-203.
- New Edinburgh, Ont., note on deposits of marl in, (1863) p. 765.
- Newfoundland, reference to anorthosite rocks of, (1863) p. 66.
 rocks of west coast belonging to Quebec Group of Palæozoic, with general section, (1863) pp. 288-293.
 dip of beds from Anchor Point to Cape Norman, to the south-east, (1863) p. 864.
 rocks of revised sections of Potsdam and Quebec Group, on north coast of, (1863) p. 865.
 note on geological work done previous to 1863, (1863) p. 15 Atlas.
 record of mines and statistics for 1869-71, (71-72) p. 153.
- New Glasgow, Terrebonne, Que., note on anorthosite rocks of, (1863) p. 34.
 orthoclase gneiss, quartzites and limestones, associated with anorthosites, (1863) p. 839.
- New Glasgow bridge, N.S., description of exposure of conglomerate, (66-69) E. p. 63, F. p. 70.

- New Glasgow Coal Measures, position and area, (68-69) p. 8 Summ.
- New Glasgow conglomerates, Pictou, N.S., description of, (66-69) E. pp. 13-15, F. pp. 14-17.
section at 'Moose' Fraser's place, (66-69) E. p. 13, F. p. 14.
may possibly underlie coal formation, (66-69) E. p. 52, F. p. 58.
coal-seams above, (66-69) E. p. 52, F. p. 58.
general description of, (66-69) E. pp. 63-66, F. pp. 70-73.
breadth of exposure, character of pebbles and matrix, derivation of at New Glasgow bridge, (66-69) E. p. 63, F. p. 70.
section at Alma Mills bridge, Pictou, N.S., (66-69) E. p. 64, F. p. 71.
west side East River, fold cut into on south by Devonian up-thrust, unconformity with Millstone Grit, (66-69) E. pp. 65-66, F. p. 73.
- New Glen settlement, Victoria Co., N.S., pre-Cambrian rocks of district, (82-84) p. 12 H.
- New Ireland road, Albert Co., N.B., assay of specular iron-ore for gold and silver, (82-84) p. 5 MM.
- New Jersey, occurrence of tephroite and willemite, (63-66) p. 206.
magnetites, regarded as eruptive in, (73-74) p. 194.
- New Jerusalem settlement, N.B., Lower Carboniferous rocks in, (72-73) p. 190.
- New London, P.E.I., discovery of Triassic fossils at, (82-84) p. 19 E.
- New Red Sandstone (Trias) of Bay of Fundy, early descriptions, (70-71) p. 216.
distribution, features, fossils, (70-71) p. 217.
details of exposures, (70-71) pp. 218-221.
distribution, age, (70-71) p. 218.
- New Richmond, Bay of Chaleurs, Que., shell-marl near referred to, (80-82) p. 20 D.
- New River, Charlotte Co., N.B., Huronian slates, etc., (70-71) p. 91.
Kingston Group, description by Matthew and Bailey, (70-71) p. 125.
granite area of upper part, (70-71) pp. 185-186.
section of Kingston Group on, (76-77) p. 341.
section of Huronian at, (77-78) p. 4 E.
- New Russia forges, N.Y., yield of ore, pressure of blast, (66-69) E. p. 279, F. p. 308.
- New York Industrial Exhibit, 1852, column of coal from Albion mines sent to, (66-69) E. p. 369, F. p. 410.
- New York State, U.S.A., general distribution of Potsdam sandstone in, (1863) p. 87.
saliferous formation of, note on, (76-77) p. 237.
bloomy furnaces, product of 1868, (66-69) E. p. 275, F. p. 304.
general description of Medina and Clinton Formations in, (1863) pp. 310-311.
table of rock formations, compared with Great Britain and Canada, (1863) p. 932.
- New York Mica Company, statistics for 1869, (71-72) p. 147.
- New Westminster, B.C., note on superficial deposits, shell-beaches, (82-84) p. 33 B.
to Yale, B.C., journal of A. R. C. Selwyn, 1871, (71-72) p. 21.
- New winning shafts, Sydney Mines, N.S., pumping machinery, (72-73) p. 245.
notes on extent of workings, (74-75) p. 239.
- New Zealand, accumulation of iron-sand on northern island, (66-69) E. p. 262, F. p. 290.
- Newer volcanic rocks of Ramsay, Murchison and Lyell Islands, Q. C. Is., (78-79) pp. 58-59 B.
- Newholapitku River, B.C., International Boundary, gneissic rocks of, (82-84) p. 21 B.
- Niagara, Ont., spring in rocks of Medina Formation containing sulphuric acid, (1863) p. 352.
travertine from natural springs, (1863) p. 455.
geodes filled with sulphate of magnesia, (1863) p. 460.
- Niagara Peninsula, Ont., erratic blocks in, generally Laurentian, (1863) p. 895.
- Niagara escarpment, Ont., general description, extension eastward, (1863) p. 7.
general description of ravines and gorges in, (1863) pp. 13-15.
on Georgian Bay, north of Owen Sound, (1863) pp. 331-334.
- Niagara Falls, Ont., thickness of shales and limestone constituting Niagara Series, (1863) p. 321-322.
marsh-gas at burning-spring, (1863) p. 527.
note on native sulphur found at, (1863) p. 530.
note on building stone at, (1863) p. 820.
superficial clay-deposits of, (1863) p. 902.
river-deposits containing fresh-water shells, (1863) p. 913.
- Niagara Formation, extent of in New York, thickness at Rochester, Lockport and Niagara, (1863) p. 321.
in Ontario, detailed description of outcrop, sections and fossils, (1863) pp. 321-336.
mineral springs from, (1863) p. 561.
note on rocks forming mass of, (1863) p. 624.
note on southern extent of above escarpment, east of Hamilton, (1863) p. 329.
of Albany River, (71-72) p. 111.
on Cockburn Island, Ont., general description with sections, (66-69) E. p. 114, F. p. 128.
on Lake Temiscaming, fossils found, (1863) pp. 334-335.
on Manitoulin Island, Ont., northern boundary, (63-66) p. 175.
general description, sections, etc., (66-69) E. p. 114, F. p. 128.
extent and thickness of on, (63-66) p. 174.
section of, (63-66) p. 175.
fossils of, (63-66) p. 176.
on Manitoulin Islands, Ont., distribution of, (1863) pp. 333-334.

- Niagara Formation—*Cont.*
 escarpment of, (63-66) p. 176.
 boulders of, on Gneiss Island, Lake Nipigon, (66-69) E. p. 353, F. p. 390.
- Niagara River, exposures of Medina sandstone and gray band, (1863) p. 312.
 thickness of Onondaga Formation on, (1863) p. 346.
- Niagara Tp., Ont., fossils of Medina Formation found in, (1863) p. 312.
 mineral spring near falls, partial analysis of water, (1863) p. 540.
 analysis of clay from, (1863) p. 641.
- Nicholas River, Kent Co., N.B., good soil reported on, (80-82) p. 4 D.
- Nicholson Creek, Skidegate Inlet, Q.C. Is., B.C., analysis of coal from, (72-73) p. 81.
- Nicholson Rapids, Rideau River, Ont., exposure of Calcareous Formation noted, (1863) p. 118.
- Nicholson's tunnel, Skidegate Inlet, Q.C. Is., B.C., analysis of coal, (72-73) p. 81.
 description of coal-seam, (78-79) p. 73 B.
- Nickel, in British Columbia, note on, (76-77) p. 133.
 in iron-pyrites of Burgess Tp., Ont., (63-66) p. 217.
 percentage of in pyrites from Londonderry, N.S., (74-75) p. 14.
 in serpentine from Pigeon Lake, Ont., (76-77) p. 483.
 and cobalt contained in pyrrhotite from Pic Island, Lake Superior, (80-82) p. 15 H
 in pyrites from St. Jerome, Que., (76-77) p. 482.
 silicate of, analyses of from Michipicoten Island, Ont., (1863) pp. 506-507.
 sulphuret of, occurrences of in Ontario, (1863) p. 506.
 occurrence of in Orford, Sutton and Bolton Tps., Que., (1863) p. 507.
 found in Orford Tp., Que., (1863) p. 738.
- Nickel-gymnite, analysis of, from Michipicoten Island, Lake Superior, (1863) p. 507.
- Nickel-ore, note on occurrence of in Ontario and Quebec, with analyses, (1863) pp. 506-507.
 note on localities producing, (1863) p. 737
 in Huronian, general note on mode of occurrence, (1863) p. 59.
 with silver and copper at Michipicoten Island, mining on vein, (1863) p. 703.
 analysis of, (1863) p. 737.
 notes on Orford Nickel Mine, Que., (80-82) p. 5 GG.
 frequent in dolomites of Quebec Group, (1863) p. 614.
 at Wallace mine, Ont., tests of, on outcrop of vein containing copper and nickel (1863) p. 60.
 trials of recommended, (1863) p. 695.
 analysis of, (1863) p. 737.
 statistics for Newfoundland for 1869 to 1871, (71-72) p. 153.
- Nicoamen, Thompson River, B.C., iron-ore reported from near, (73-74) p. 100.
 specimens of magnetite from, (73-74) p. 206.
 first gold found in British Columbia, derived probably from igneous rocks, (77-78) p. 154 B.
- Nicola bridge, Nicola River, B.C., rocks north of Stump Lake, (77-78) p. 78 B.
- Nicola Lake, B.C., trails to, description of, (77-78) p. 27 B.
 general description, outlet of, (77-78) pp. 30-31 B.
 series of schists, agglomerates, limestones, etc., exposed on, (77-78) pp. 74-78 B.
 diagrammatic section showing probable arrangements of rocks of south side of, (77-78) facing p. 174 B.
 to Princeton or Vermilion Forks, Similkameen River, description of trails, (77-78) p. 42 B.
 to Kamloops, description of trail *via* Guichon Creek, (77-78) p. 34 B.
- Nicola limestone, horizon of on South Thompson River, B.C., (77-78) p. 81 B.
- Nicola River, B.C., note on country drained by, coal in valley of, (71-72) p. 24.
 gold on, (76-77) p. 142.
 analysis of coal from, (76-77) p. 465.
 report on analysis of coal from, (71-72) p. 66.
 outcrop of softer beds, coal, etc., at Coldwater River, (77-78) p. 31 B.
 upper part of valley, cultivable areas, (77-78) p. 31 B.
 coal-seams in vicinity of Coldwater River, sections and analysis, (77-78) pp. 124-125 B.
 Tertiary rocks of lower part, (77-78) pp. 127-128 B.
 occurrence of gold on, (77-78) p. 155 B.
 description of fossil insects from, (77-78) pp. 175-185 B.
 diagrammatic section of Tertiary beds at Coal Gully, (77-78) facing p. 174 B.
 analysis of lignite from mouth of Coldwater River, (77-78) p. 48 G.
- Nicola Series, description of section on Nicola Lake, associated limestone beds with fossils, (77-78) pp. 74-78 B.
 varieties of rock, arrangement of strata, thickness, (77-78) pp. 76-77 B.
 overlying limestone on South Thompson River, unconformity, (77-78) p. 81 B.
 volcanics overlying Cache Creek rocks, age of, fossils of, unconformity at base of, (77-78) p. 171 B.
 equivalent age by table of formations, (77-78) p. 173.
- Nicola Valley, B.C., description of lower part of, tributary streams, climate, farming and settlers in, (77-78) pp. 33-34 B.
 coal-seams of, note on, (76-77) p. 127.
 glaciation and stræ in, (77-78) p. 139 B.
 white-silt deposits probably represented, (77-78) p. 144 B.
 terraces and drift material in, (77-78) p. 146 B.
 moraines at outlet of lake, (77-78) p. 150 B.

- Nicolet Co., Que.:—
for general geology see Part I., p. 10.
- Nicolet, Que., mineral water of, reference to analysis of, (1863) p. 540.
 analysis of mineral water from, (1863) p. 550.
- Nicolet Seignory, Que., springs of different classes rising in, (1863) p. 562.
- Nicolet Lake, Que., note on asbestos mining on Big Island, (80-82) pp. 7-8 GG.
- Nicolet River, Que., note on red shales overlying Hudson River rocks, (1863) p. 205.
 exposures of red shale and gray sandstone in Quebec Group, (1863) p. 242.
- Nicolme River, Hope, B.C., description of trail eastward, (77-78) p. 45 B.
 crystalline rocks of, (77-78) p. 68 B.
- Nictaux, N.S., partial analysis of magnetite from, (73-74) p. 210.
 hematite in fossiliferous beds of, (73-74) p. 218.
 dimensions of blast furnace, date of building, (73-74) p. 256.
- Nictaux River, N.S., magnetite from, examined, (73-74) p. 206.
- Nictor Lake, N.B., limit of Silurian rocks, (79-80) p. 16 D.
 pre-Cambrian felsites of, (79-80) pp. 35-36 D.
 Silurian rocks of, (79-80) pp. 15-16 D.
- Nigadoo River, N.B., note on galena deposits, operations commenced, character of ore, (80-82) pp. 21-22 D.
 slaty and sandy beds of Silurian or Cambro-Silurian aspect, (79-80) p. 18 D.
 northern limit of Cambro-Silurian rocks on, character of exposures, (79-80) p. 23 D.
 note on galena-mining at, (79-80) p. 45 D.
- Nigado silver mine, Gloucester Co., N.B., assay of galena, (80-82) p. 13 H.
- Nigger Brook, Southampton Parish, N.B., limestone bed west of, (82-84) p. 19 G.
- Nigger Dan's hut, on Parsnip River, B.C., (75-76) p. 40.
- Nikoubau River, Que., general description of, (70-71) p. 284.
 soil, forests, vegetation, (70-71) p. 298.
- Nikoubau Lake, *see* Lake Nikoubau.
- Niles Brook, Charlotte Co., N.B., slates and argillites of the dark argillite series, (70-71) p. 195.
- Nile Brook, Margaree River, N.S., pre-Cambrian rocks of, (82-84) pp. 27-28 H.
- Nine-mile Brook, Nipisiguit River, N.B., rocks of, (79-80) p. 27 D.
- Nine-mile Creek, Similkameen River, B.C., Tertiary rocks of, (77-78) p. 130 B.
 fossil plants in Tertiary clays, (77-78) p. 49 B.
 description of fossil insects from, (77-78) pp. 175-185 B.
 list of fossil plants from, (77-78) p. 186 B.
- Ninstints or Ninstance, Q.C. Is., Indian village, situation of, (78-79) p. 15 B.
 description of, (78-79) p. 169 B.
- Niobrara Group in Manitoba, extent and character of beds, (79-80) p. 15 A.
- Niobrara Period, Cretaceous, conditions of deposition, (79-80) p. 133 B.
- Nipigon Bay, Lake Superior, gneiss of, distribution of, on shores of the lake, (1863) p. 48.
 lower slates of Animikie Series, exposed at outlet of, (1863) p. 77.
 note on rocks of islands in, (1863) p. 79.
 probable spur of gneiss effecting an undulation in rocks of Upper Copper-bearing Series, (1863) p. 79.
- Nipigon District, Ont., glacial striae, list of, (66-69) E. pp. 351-352, F. pp. 388-389.
 economic minerals of, (66-69) E. pp. 357-363, F. pp. 395-403.
 summary of R. Bell's work in 1869, (69-70) pp. 6-7 Summ.
- Nipigon and Thunder Bay region, surface geology, (66-69) E. pp. 351-357, F. pp. 388-395.
- Nipigon House, Lake Nipigon, Ont., sandstone boulders at, (66-69) E. p. 348, F. 385.
 felspar-porphry exposed near, (66-69) E. p. 348, F. p. 385.
 red hematite reported from, (66-69) E. p. 358, F. p. 396.
 bedded red quartz-felsite, (71-72) p. 104.
- Nipigon Lake, Ont., survey of, measurements by micrometer and triangulation, (66-69) E. p. 316, F. p. 348.
 boulders strewn on north shore, (66-69) E. p. 352, F. p. 390.
 effects of recent ice shoving on shores of, (66-69) E. p. 354, F. p. 392.
 soil of southern part of basin, (66-69) E. p. 355, F. p. 393.
 sand of the beaches, (66-69) E. p. 356, F. p. 394.
 climate and timber of, (66-69) E. p. 357, F. p. 394.
 rocks suitable for roofing tiles, (66-69) E. p. 363, F. p. 402.
 building stones of, (66-69) E. p. 363, F. p. 401.
 size less than previously stated, (66-69) E. p. 471, F. p. 525.
 height given by R. Bell at first, 150 feet, changed to 313 above Lake Superior, (66-69) E. p. 472, F. p. 526.
 map by R. Bell to be considered as a sketch, (66-69) E. p. 472, F. p. 526.
 view on lake from Wabinoosh River showing Outer and Inner Barns, (77-78) Part C.
see also Lake Nipigon.
- Nipigon River, beds at mouth of showing probable unconformity between sedimentary rocks and trap overflow, (1863) p. 79.
 survey of by Mr. Herrick, referred to, (66-69) E. p. 315, F. p. 348.
 continuation of St. Lawrence, general course, (66-69) E. p. 336, F. p. 371.
 lakes and portages on, (66-69) E. p. 337, F. p. 372.
 geological features of, (66-69) E. p. 338, F. p. 373.

Nipigon River—*Cont.*

list of elevations of lakes, etc., above Lake Superior, (66-69) E. p. 338, F. p. 373.

Nipigon Series, name suggested for Upper Copper-bearing Series, (72-73) p. 106.

direction of trap flow indicated, (72-73) p. 106.

on east shore Lake Superior, (76-77) p. 213. note on volcanoes of, age, (77-78) p. 15 A.

comparison with Manitoulin Series, Hudson Bay, (77-78) p. 11 C.

Nipisiguit crossing of I.C. Ry., N.B., red beds of Lower Carboniferous resting on granite, (79-80) p. 5 D.

Nipisiguit River, N.B., Bonaventure Formation, copper-ores in, near Bathurst, section of strata, (1863) p. 451.

exploration of L. W. Bailey in 1864, (70-71) p. 24.

assay of specimen for gold from Middle Landing Falls, (78-79) pp. 18 H.

general description of, route to Tobique River, (79-80) p. 2 D.

note on character of country on, (79-80) p. 4 D.

extent of Lower Carboniferous rocks on, (79-80) p. 7 D.

description of Cambro-Silurian exposures on, (79-80) pp. 26-27 D.

pre-Cambrian gneisses of, (79-80) pp. 30-31 D.

illustration showing Pabineau Falls, (79-80) facing p. 33 D.

the granites of lower part of, (79-80) p. 33 D.

illustration showing Bald Mountain, (79-80) facing p. 35 D.

pre-Cambrian felsites of, (79-80) p. 36 D.

report by H. Y. Hind on gold in drift of, referred to, (78-80) p. 43 D.

Nipissing District, Ont., note on sand deposits of, (1863) p. 908.

for general geology see *Part I*, p. 14.

Nipissing Lake, Ont., Laurentian limestones referred to, (1863) p. 46.

hematite deposit referred to, (1863) p. 509.

iron-ore of Iron Island, (1863) p. 678.

Huronian boulders common on, (1863) p. 894.

clay deposits, Algoma sand, (1863) pp. 906-908.

crystalline limestones of region south-west of, (76-77) pp. 202-208.

Silurian rocks of, referred to, (76-77) p. 272.

gneiss and limestone on, (76-77) p. 278.

Nipissing road, Ont., crystalline limestone exposure on, (76-77) p. 206.

Nipissing Tp., Ont., exposures of Nipissing road band of limestones, (76-77) p. 206.

Nisconlith Series, or Division B, Shuswap Lakes, B.C., notes on, (77-78) p. 96 B.

Nitidulidæ of Tertiary beds of Quesnel, B.C., (75-76) p. 278.

Nitre from travertine of Nazco River, B.C., (75-76) p. 265.

Nitric acid, manufacture of near Brockville, Ont., (74-75) p. 307.

NOAD, PROF., analysis of iron-ore from Big Pond, and Whykokomagh, N.S., (75-76) p. 415.

Nobles Bay, Rideau Lakes, Ont., phosphate shipped from, (70-71) p. 318.

Nodules of ironstone and sandstone in Dirt Hills, N.W.T., (73-74) p. 78.

Noisy River, Nottawasaga Tp., Ont., indentation in outcrop of Clinton Formation on, (1863) p. 315.

Nomandin Lake, Que., rocks between St. Maurice and Ashuapmouchouan rivers, (70-71) p. 290.

Nomenclature, geological, adopted in Canada with notes on, (1863) pp. 19-21.

Non-crystalline rocks of southern New Brunswick, referred to Carboniferous, (70-71) p. 20.

Nonwatanose Lake, Thunder Bay District, Ont., earthy-red hematite, (66-69) E. p. 358, F. p. 396.

Noo-cho Island, François Lake, B.C., white trachyte tuff of, (76-77) p. 87.

Nool-ki Lake, B.C., prairie flats, botanical notes on, (75-76) p. 132.

Norfolk Co., Ont., list of fossils found in Corniferous Formation in, (1863) pp. 369-370.

for general geology see *Part I*, p. 14.

Norian areas of the Archæan, various opinions as to age cited, origin of, (77-78) pp. 11-13 A.

Norite rocks of Argenteuil, Terrebonne, Montcalm and Joliette Cos., Que., area outlined by H. G. Vennor, (79-80) p. 3.

bands of in country between St. Jean de Matha and Lake Maskinongé, Que., conformable to gneiss, (79-80) p. 5.

of Dolins Lake, near St. John, N.B., (70-71) p. 41.

Norman Cove, Nfld., note on rocks of, Trenton fossils found, (1863) pp. 872-873.

Norman Point, Hornby Island, B.C., Middle shales at, (72-73) p. 48.

Normanby Tp., Ont., exposures of Onondaga Formation at Ayton and Neustadt, (1863) p. 351.

note on drift and superficial deposits of, (1863) p. 900.

Normandale, Ont., smelting furnace for Charlotteville bog iron-ore, referred to, (1863) p. 683.

blast-furnaces, using iron-sand, (66-69) E. p. 262, F. p. 290.

North Aspy Brook, N.S., Lower Carboniferous rocks of, (82-84) p. 46 H.

North Aspy River, Aspy Bay, N.S., gneissic and granitic rocks of, (82-84) p. 19 H.

on character of, and surrounding country, timber, soil, etc., (82-84) pp. 79-80 H.

North Bay of Ingonish, N.S., isolated area of pre-Cambrian, (82-84) p. 17 H.

- North Bluff and Hudson's Bay Company's post, Little Whale River, illustration, (77-78) frontispiece to Part C.
- North Bluff, Hudson Straits, view showing outline of hills, (79-80) facing p. 24 C.
rocks of vicinity to Ashe Inlet, (82-84) p. 21 DD.
- North Branch, Milk River, geology of, (82-84) pp. 36-37 C.
- North Branch, Salmon River, N.B., Lower and Upper Carboniferous rocks on, (72-73) p. 206.
- North Burgess Tp., Ont., analysis of loganite found in, (1863) p. 491.
analysis of phlogopite from, (1863) p. 495.
note on copper-ore from, (1863) p. 692.
apatite deposits of, note on, (1863) p. 761.
analysis of apatite from, (1863) p. 761.
occurrence of heavy-spar in, (1863) p. 771.
note on mica deposits of, (1863) p. 796.
occurrence of *Eozoon Canadense* in rocks of, (70-71) p. 310.
notes on phosphate of lime and mica of by G. Broome, (70-71) pp. 316-321.
apatite veins on lot 4, R. V., test of, thickness, (70-71) pp. 316-317.
cave in apatite vein on lot 8, R. V., (70-71) p. 318.
mica-mines on lot 16, R. IX., description of workings, defects in mica, (70-71) p. 321.
list of apatite localities, examination of Schultz's claim, (71-72) pp. 124-125.
examination of Matheson, Ritchie and Jackson, and Watt locations, (71-72) p. 125.
rock series in phosphate basin, (72-73) pp. 164-170.
section of gneisses, limestones, etc., on lot 11, R. IV., (72-73) pp. 166-167.
course of crystalline-limestone band in, (72-73) pp. 167-168.
series of rocks compared with Grenville, Que., (72-73) p. 169.
phosphate-deposits of R. VIII., (73-74) pp. 109-139.
report on openings made on apatite locations in R. VIII. on lots A and 1 to 7, (73-74) pp. 110-128.
map of part of, showing openings for apatite, (73-74) p. 128.
exploratory work done by H. G. Vennor in 1874, (74-75) p. 105.
notes on surveys used in making map of, (74-75) pp. 107-108.
notes on cessation of work on apatite mines, (74-75) pp. 108-112.
description of apatite workings on lot 10, R. VI., (74-75) p. 108.
description of apatite workings on lots 11 and 12, R. VII., (74-75) p. 109.
section showing basin-shaped deposits of apatite, (74-75) p. 111.
reference to horizon of *Eozoon*, (74-75) p. 158.
apatite rocks of, (76-77) p. 296.
analysis of apatite from, (77-78) pp. 4, 10 H.
note on Adam's apatite mine, (82-84) pp. 7-8 L.
- North Cape, Magdalen Islands, Que., gray sandstones and brownish limestone, (79-80) pp. 7-8 G.
- North Cape, P.E.I., beds exposed at, manganese-ore and fossil plants, (82-84) p. 13 E.
- North Carolina, analysis of talcose shale from, (1863) p. 602.
- North Cayuga Tp., Ont., loose chert nodules of Corniferous found at, (1863) p. 366.
exposures of Oriskany sandstone, fossils of, (1863) pp. 360-361.
quarries in gray-band sandstone in, (1863) p. 815.
- North coast of Hudson Strait, north-west of Drake Inlet, view showing outline of hills, (79-80) facing p. 24 C.
- North Crosby Tp., Ont., analysis of iron-ore from property of G. W. Allan, (66-69) E. p. 258, F. p. 285.
magnetic iron-ore on property of G. W. Allan, (70-71) p. 313.
analysis of, (73-74) p. 211.
analysis of ore from lot 27, R. IV., (74-75) p. 121.
note on iron-ore deposits of Spectacle Lake and on Mitchell's location, (74-75) pp. 117-118.
reference to iron-ore on lot 27, R. VII., (74-75) p. 121.
iron-ore horizons in, (76-77) p. 296.
- North-east Arm, Shuswap Lake, B.C., altered rocks of, (77-78) p. 99 B.
granitic alteration of strata, (77-78) p. 100 B.
- North-east Baddeck River, N.S., pre-Cambrian rocks of, (82-84) p. 12 H.
- North-east Cape, Magdalen Island, Que., rocks of, (79-80) p. 8 G.
- North-east Mabou, N.S., copper-ore reported at, (79-80) p. 123 F.
- North-east Mabou River, N.S., sandstone and shales of Lower Carboniferous, (82-84) p. 42 H.
- North-east Margaree River, N.S., pre-Cambrian rocks of upper part, (82-84) pp. 25-26 H.
ridge of Lower Carboniferous, (82-84) p. 41 H.
rocks of Lower Carboniferous limestone series, (82-84) p. 51 H.
note on barrens at head of, (82-84) pp. 77-78 H.
- North Elmsley Tp., Ont., occurrence of apatite noted, (1863) p. 460.
description of loganite found in, (1863) p. 491.
sphene reported in, (1863) p. 503.
note on apatite deposits of, (1863) p. 761.
notes on phosphate of lime and mica of by G. Broome, (70-71) pp. 316-321.
apatite in vein of carbonate of lime on lot 25, R. VIII., extent of workings, (70-71) p. 320.
plumbago mine, occurrence of ore, process of dressing, (72-73) p. 178.

- North fault, Pictou coal-fields, N.S., (66-69) E. p. 25, F. p. 28.
 near East River pit, New Glasgow, N.S., (66-69) E. p. 46, F. p. 52.
 cutting off Millstone Grit, (66-69) E. p. 62, F. p. 68.
 west of East River, (66-69) E. p. 73, F. p. 81.
 Devonian rocks against barren Coal Measures, (66-69) E. p. 81, F. p. 90.
- North Forks of McDame Creek, B.C., gold-workings on, (76-77) p. 140.
- North Fork, Old Man River, Alta., thickness of coal-seam on, (80-82) p. 19 B.
 general description of, (82-84) p. 24 C.
 rocks on, Willow Creek and St. Mary River Series, coal-seam, (82-84) pp. 102-103 C.
 diagrammatic section through foot-hills, showing attitude of beds, (82-84) facing p. 106 C.
 absence of Laurentian drift, (82-84) p. 147 C.
- North Fork, Similkameen River, B.C., description of fossil insects from, (77-78) pp. 175-185 B.
- North Head, Cow Bay, N.S., section of Millstone Grit, (74-75) pp. 181-183.
- North Island, Q.C.Is., B.C., coal measures occurring on, (72-73) p. 62.
 anchorages around, (78-79) p. 40 B.
 character of, (78-79) p. 40 B.
 the Cretaceous rocks of, (78-79) pp. 83-84 B.
 latitude observations at, (78-79) p. 237 B.
- North Lake, Carleton Co., N.B., description of Cambro-Silurian and metamorphic rocks of, (82-84) pp. 13-14 G.
- North Lake, York Co., N.B., inclusions in granite north of, (82-84) p. 24 G.
 hills surrounding, drift deposits, (82-84) p. 16 G.G.
 collection of boulders near, (82-84) p. 11 G.G.
- North Mountain, Annapolis, N.S., magnetite in trap rocks, (73-74) p. 207.
- North Mountain, Inverness Co., N.S., pre-Cambrian felsites of, (79-80) pp. 14-17 F.
 crystalline-limestone of, (79-80) pp. 17-24 F.
- North Pembina River, N.W.T., analysis of lignite from, in table, (76-77) facing p. 472.
 analysis of coal from crossing of old line C.P.R., (79-80) p. 135 B.
- North Point Map-sheet, part of Prince Edward Co., P.E.I., issued in 1884.
- North River of St. Anne, N.S., rocks of, (76-77) pp. 427, 451.
 metalliferous veins of, (76-77) p. 452.
 copper-ore, zinc-blende and galena in vein, (80-82) p. 8.
 pre-Cambrian rocks of, (82-84) pp. 12-13 H.
 falls on east branch, (82-84) p. 13 H.
 silver mine of Elder Brook, reference to, (82-84) p. 14 H.
 Lower Carboniferous rocks of, (82-84) p. 46H.
 note on marshes and barrens of, (82-84) p. 78 H.
 note on general character of, (82-84) p. 81 H.
 note on workings at galena mine, (82-84) p. 94 H.
- North Saanich, Vancouver Island, coal-bearing rocks, fossils of, (71-72) p. 88.
 farming lands of, (71-72) p. 96.
 list of fossil plants from rocks, (71-72) p. 98.
 analysis of lignite from, (71-72) p. 99.
- North Saskatchewan River, view and description of, 18 ft. coal-seam, (73-74) p. 49.
 extent and origin of alluvial gold found in, (73-74) pp. 57-58.
 analysis of lignite from, in table, (76-77) facing p. 472.
 analysis of lignite-coal from Big Seam, (79-80) p. 135 B., and (82-84) pp. 13-14 M.
 analysis and calorific power of lignite from, (82-84) pp. 14-15 M.
- North Sherbrooke Tp., Ont., horizontal gneiss, soil, (72-73) p. 149.
 dolomite and slate group in, (74-75) p. 132.
 coarse syenite and diorite band, (74-75) p. 138.
 labradorite discovered in diorites, description and analysis of, (74-75) pp. 310, 315-316.
- North Shore St. Lawrence, geographical features, (66-69) E. pp. 308-311, F. pp. 341-344.
- North Shore Map-sheet, Victoria Co., N.S., issued 1884, scale 1 m. = 1 in.
- North Star Mine, or Haycock Mine, Tamo Lake, Que., (82-84) pp. 16-17 J.
- North Sydney, N.S., note on new buildings, wharf and railway, (74-75) p. 239.
- North Thompson River, B.C., barometric readings on trail given in A. R. C. Selwyn's journal, (71-72) pp. 25-48.
 to Clearwater River, farming land in valley of, (71-72) p. 25.
 description of trail and valley, near Clearwater River, (71-72) p. 26.
 canoe journey down from north-west branch, (71-72) pp. 46-48.
 flats suitable for cultivation in valley, (71-72) p. 47.
 superficial geology of, (71-72) pp. 54-56.
 granite and gneiss series of, (71-72) pp. 64-65.
 assay of copper-ore from near Spences Bridge, B.C., (75-76) p. 5.
 gold on, near Nicoamen, (76-77) p. 118.
 note on coal of, (76-77) pp. 128, 145.
 analysis of coal from, (76-77) p. 466.
 illustration, looking up valley from near Kamloops, (77-78) p. 12 B.
 general description of valley, timber and rocks, (77-78) pp. 19-20 B.
 description of rocks of lower part, (77-78) pp. 82-83 B.
 the Tertiary outlier at Indian Reserve, coal in, section of, (77-78) pp. 113-114 B.
 gold on, (77-78) p. 155 B.
 list of fossil plants from Coal Brook, (77-78) p. 186 B.
 analysis of cyanite from, (78-79) p. 1 H.
- North-west Angle to Red River, Man., Laurentian rocks, (72-73) p. 104.



- North-west anticline, extension to Margaret and Crane Islands, Que., (66-69) E. p. 120, F. p. 134
- North-west Arm, River Inhabitants, Inverness Co., N.S., limestone and plaster of, (79-80) p. 95 F.
- North-west Bay, Strait of Georgia, B.C., southern end of Comox coal-basin (71-72) p. 80.
crystalline rocks, diorites, (71-72) p. 89.
survey of coast by Jas. Richardson, (73-74) p. 96.
list of fossils collected by Jas. Richardson, (73-74) pp. 261-262.
new species of fossils collected, (73-74) p. 267.
rock exposures near, (76-77) p. 166.
fossils from, (76-77) p. 167.
- North-west Branch, North Fork, Old Man River, Alta., coal-seams, (82-84) p. 110 C.
- North-west branch of Thompson River, B.C., crossing of, (71-72) p. 36.
exploring party at, (71-72) p. 35.
- North-western Manitoba, report by R. Bell on Assiniboine River and tributaries and Swan River, (74-75) pp. 24-40.
- North-west Miramichi River, N.B., Cambro-Silurian rocks of, (79-80) p. 28 D.
illustration showing upper end of narrows, (79-80) facing p. 28 D.
elevation of land about head of, character of intrusive rocks of, (79-80) p. 32 D.
- North-west syncline, Lower St. Lawrence River, along south side, (66-69) E. p. 134, F. p. 149.
- North-west Territories, summary of exploration in during summer of 1873, (73-74) p. 3.
journey from Fort Garry to Rocky Mt. House and return by A. R. C. Selwyn, (73-74) pp. 17-62.
boundary between Cretaceous and Tertiary ill-defined, provisional line, (73-74) p. 84.
superficial geology of by R. Bell, (74-75) pp. 40-56.
boring operations in 1875 by R. W. Ells, (75-76) pp. 281-291.
table of analyses of lignite from, (76-77) facing p. 472.
summary of explorations in for 1881 and 1882, (80-82) pp. 3, 13-15.
results of investigation of coals and lignites of by G. C. Hoffmann, (82-84) pp. 1-44 M.
- Northampton Parish, N.B., Cambro-Silurian rocks of, (82-84) pp. 19-20 G.
- Northern part of British Columbia and Peace River country, report on by G. M. Dawson, (79-80) pp. 1-165 B.
- Northern British Columbia, meteorological observations during summer of 1879, (79-80) pp. 148-156 B.
- Northern Cape Breton, N.S., report on geology of by H. Fletcher, with maps, scale 1 m. = 1 in., (82-84) pp. 5-98 H.
Carboniferous rocks of, (82-84) pp. 37-76 H.
glacial and surface deposits of, (82-84) pp. 77-83 H.
- Northern Cape Breton, N.S.—*Cont.*
note on economic minerals of, (82-84) pp. 87-98 H.
- Northern drift on shores of Lake Superior, fossiliferous limestones, (1863) p. 893.
- Northern Harbour, Deer Island, Charlotte Co., N.B., rocks of coast near, (70-71) p. 129.
- Northern Head coal-seam, near Low Point, N.S., section of, (74-75) p. 225.
- Northern Head, Grand Manan Island, Triassic rocks at, (70-71) p. 219.
- Northern limit, of agriculture, note on, (79-80) p. 75 B.
of forest trees, notes by R. Bell, (78-79) pp. 41-44 C.
of rich alluvions on Gilbert River, Que., (63-66) pp. 59-61.
of principal forest trees of Canada, east of Rocky Mountains, with map, (79-80) pp. 38-56 C.
of ground maple on Lake Winnipeg, (78-79) p. 33 C.
of several varieties of trees in Moose River basin, Ont., (77-78) p. 25 C.
of trees in Winnipeg and Nelson River basins, (77-78) pp. 28-29 CC.
- Northern New Brunswick, report by Chas. Robb on geology of part of, (66-69) E. pp. 173-209, F. pp. 191-232
supplementary report by Chas. Robb on geology of, (70-71) pp. 241-251.
reference to fifth report by Dr. A. Gesner on, (70-71) p. 19.
report on geology of parts of Restigouche, Gloucester and Northumberland Cos., by R. W. Ells, (79-80) pp. 1-47 D.
economic minerals of, (79-80) pp. 43-47 D.
- Northern pre-Cambrian area of Cape Breton Island, description of area, (82-84) pp. 11-23 H.
- Northern road, Parry Sound District, Ont., rocks on, (76-77) pp. 204-205.
- Northern Silurian basin of Ontario, description of Lake Temiscaming, Niagara rocks, (1863) pp. 334-336.
- Northern slate belt of southern New Brunswick, character of, (70-71) p. 16.
- Northumberland Co., N.B., report on geology of part of, by R. W. Ells, (79-80) pp. 1-47 D.
the Cambro-Silurian of Dungarvon and Renous rivers, (80-82) pp. 16-17 D.
fine ridges of land on Renous and Dungarvon rivers. (80-82) p. 20 D.
map of part of, on Newcastle Map-sheet, scale 4 m = 1 in., with report, (80-82) Part D.
- Northumberland Co., Ont.:—
for general geology see *Part I*, p. 14.
- Norton, England, titanite iron-ore smelted by Plater's process, (66-69) E. p. 253, F. p. 280.
- Norton, Kings Co., N.B., galena locality, (70-71) p. 228.

- Norton Station, Kings Co., N.B., Lower Carboniferous rocks, (70-71) p. 208.
bituminous shales on Moosehorn Brook, (78-79) p. 16 D.
- Norway, composition of iron-ores of, (66-69) E. p. 252, F. p. 279.
iron and iron-ores of, (66-69) E. pp. 245-252, F. pp. 271-280.
list of minerals occurring in apatite-deposits of, (77-78) p. 13 G.
production of iron, amount exported, cost of ore, fuel used, (66-69) E. p. 246, F. p. 272.
Thos. Macfarlane on rocks of, referred to, (1863) pp. 586, 616.
- Norway House, Keewatin, situation of present trading post, (77-78) p. 3 CC.
crops at in 1878, (77-78) p. 30 CC.
variation of compass at, (78-79) p. 72 C.
to Oxford House, list of coleoptera collected in 1880, (79-80) pp. 71-72 C.
- Norway pine, note on northern limit of in Canada, (79-80) p. 50 C.
- Nose Point, Skidegate Inlet. Q.C.Is., B.C., conglomerates of coal-bearing series, (72-73) p. 63.
conglomerates of, (78-79) p. 65 B.
- Notch Hill, Nanoose Harbour, B.C., crystalline rocks of, (71-72) p. 89.
- Notes on plants from Magdalen Islands collected by Jas. Richardson, (79-80) pp. 12-15 G.
- Notes on the geology of the south-eastern portion of Province of Quebec by A. R. C. Selwyn, (80-82) pp. 1-7 A.
- Notes on microscopic structure of some rocks of Quebec Group by F. D. Adams, (80-82) pp. 8-23 A.
- Notre Dame Mts., Que., source of gold in Chaudière River, supposed to be from, (1863) p. 519.
note on rock formations of, (1863) p. 598.
note on origin of gold-bearing drift of, (1863) p. 929.
panoramic view of, in Gaspé, from sketches by A. P. Low to accompany report, (82-84) Part F.
- Nottaway River, James Bay, lakes forming headwaters of, (70-71) p. 285.
- Nottawa River, Ont., cavern at fall in Mono Tp., (1863) p. 334.
- Nottawasaga, Ont., thickness of grey band sandstones, grindstones and whetstones, (1863) p. 815.
- Nottawasaga Bay, Lake Huron, exposures of Utica Formation on, (1863) p. 211.
Hudson River Formation exposed on, (1863) p. 213.
- Nottawasaga River, Mono Tp., Ont., indentation in outline of Clinton Formation noted, (1863) p. 315.
fresh-water shells found in sand at Angus Station, (1863) p. 919.
- Nottawasaga Tp., Ont., indentations in outcrops of Clinton Formation, (1863) p. 315.
- Nottawasaga Tp., Ont. *Cont.*
exposures of grey band of sandstone at top of Medina Formation, (1863) pp. 316-317.
thickness of Medina sandstones, (1863) p. 317.
outcrop of Niagara marked by cliffs, (1863) p. 328.
deposit of ochre referred to, (1863) p. 770.
deposit of calcareous tufa suitable for lime, referred to, (1863) p. 804.
lacustrine sandy deposit in, (1863) p. 910.
- Nottingham Island, Hudson Strait, description of county around Port De Boucherville, (82-84) pp. 28-30 DD.
- Nouvelle River, Bay of Chaleurs, trap rocks at bridge, (1863) p. 449.
Devonian rocks of, (80-82) p. 10 D.
- Nova Scotia, gold of, character of rocks, (1863) p. 745.
note on geological work done previous to 1863, (1863) p. 15 Atlas.
work in during 1868, by D. Honeyman, H. How, W. E. Logan and E. Hartley, (68-69) p. 8 Summ.
work done in 1870 by S. Barlow and E. Hartley, (70-71) pp. 2-6.
the granitic belt in, observations by H. Y. Hind and A. R. C. Selwyn, (70-71) p. 265.
relation of granite to gold rocks, (70-71) p. 265.
alluvial gold deposits, reference to Prof. Hind's report on, (70-71) p. 273.
comparative work of stamp-mills, and yield of gold, (70-71) pp. 280-281.
comparative cost of labour in, (70-71) p. 281.
statistics of coal and record of mines, 1869-71, (71-72) p. 149.
record of gold mines and statistics for, 1869-71, (71-72) p. 150.
occurrence of magnetite in Silurian slates and quartzites, (73-74) p. 206.
note on occurrence of clay iron-stone in Carboniferous, (73-74) p. 239.
list of blast furnaces, notes on each, (73-74) pp. 246, 252-257.
progress of geological explorations in for 1876, (76-77) p. 4.
report on part of Victoria, Cape Breton and Richmond Counties by Hugh Fletcher, (76-77) pp. 402-456.
summary of surveys of 1877-78 in Cumberland Co., (77-78) p. 6.
progress of geological investigations in 1883, (82-84) pp. 14-15.
note on mines visited by C. W. Willimott, (82-84) pp. 20-23 L.
for geology of several Counties of see Part I, pp. 5-6.
- Nova Scotia Coal Co., of New Haven, Conn., French area, (66-69) E. pp. 103-104, F. pp. 116-117.
gas-trials of coal at Pictou gas works, (66-69) E. p. 434, F. p. 484.
- Nova Scotia Colliery, buildings and works being erected, probable output, (66-69) E. p. 104, F. p. 117.

- Nova Scotia Colliery—*Cont.*—
proximity of west fault and probable effect, (66-69) E. p. 104, F. p. 117.
- Acadia seam, analysis of coal, (66-69) E. p. 386, F. p. 429.
- Nova Scotia gold-bearing quartz beds, classification of, (70-71) p. 260.
- Nova Scotia gold district, physical features compared with Australia, (70-71) p. 273.
- work by A. R. C. Selwyn during 1870, (70-71) p. 7.
- notes and observations by A. R. C. Selwyn, (70-71) pp. 252-282.
- age of gold-bearing veins, (70-71) p. 257.
- anticlines as grouped by Campbell, (70-71) p. 264.
- strike of rocks in, (70-71) p. 264.
- topographical survey of commenced by W. B. Dawson, area surveyed in 1881, (80-82) pp. 8-9.
- Nova Scotia gold-mining, system of, causes of failures, (70-71) pp. 277-278.
- Nova Scotia gold veins, greatest depth worked, (70-71) p. 261.
- Nova Scotia Ry., comparison of wood and coal as steam producers on, (66-69) E. p. 405, F. p. 449.
- practical trials of Acadia steam coal, (66-69) E. p. 398, F. p. 442.
- trial pits on black shale, (66-69) E. p. 403, F. p. 447.
- Nubble Island, mouth of Passamaquoddy Bay, N.B., rocks of, (70-71) pp. 89-90.
- Nucleus of the continent during Potsdam Period, outline of eastern edge, (1863) p. 294.
- Number of copies published of 66-69 report, (70-71) p. 1.
- Number-two coal-mine, Sandstone Island, Skidegate Inlet, Q.C.Is., (72-73) p. 60.
- breadth of coal measures, (72-73) p. 62.
- Number-three area, Pictou coal-fields, N.S., trial pits on black shale, (66-69) E. p. 78, F. p. 87.
- Number-three seam, Victoria Mine, N.S., equivalent to Indian Cove seam, (73-74) p. 179.
- section on east shore, Sydney Harbour, (74-75) p. 228.
- equivalent in Boulardrie district, (74-75) p. 244.
- Number-eighteen stream, Little River, N.B., exposures on, (72-73) p. 211.
- Nunaingok, McLean Strait, Hudson Strait, old Eskimo village at, (82-84) p. 19 DD.
- Nyssa multiflora*, Wang, report of occurrence in Ontario, (79-80) p. 55 C.
- Oak of British Columbia, note on distribution, (79-80) p. 176 B.
- Oak Bay, St. Croix River, N.B., representative of St. John Group at, (70-71) p. 143.
- conglomerates of Cambro-Silurian, (70-71) p. 164.
- Oak Bay, St. Croix River, N.B.—*Cont.*
section of Upper Silurian, characteristic fossils, (70-71) p. 164.
- fossils, Upper Silurian, (76-77) pp. 323-324.
- great fault in argillites, (76-77) pp. 323-325.
- to St. Croix River, colored geological section, (78-79) accompanying Part D.
- to Deadman Head, N.B., colored geological section, (78-79) accompanying Part D.
- Oak Mountain, Carleton Co., N.B., beds composing, hematite-bearing rocks of, (82-84) pp. 16-17 G.
- belt of metamorphic and igneous rocks of, (82-84) p. 16 G.
- note on iron-ores, (82-84) p. 27 G.
- Oak openings, North and South Saanich, B.C., fine farms, (71-72) p. 96.
- Oak Point, Long Reach, N.B., rocks of peninsula behind, (70-71) p. 50.
- syenitic gneiss of, (70-71) p. 116.
- Oak Point, St. Croix River, N.B., granite quarries for building stone, (70-71) p. 234.
- Oak Point, Man., edge of prairie, beach-ridges, (74-75) p. 49.
- Oak Point Fall, English River, Ont., lake and portage at, (72-73) p. 12.
- Oak Ridge, Albion Tp., Ont., note on boulders on, (1863) p. 895.
- description of, height, area, etc., (1863) p. 909.
- Oakville, Ont., base of Medina Formation exposed near, (1863) p. 312.
- OATLEY, RICHARD, sketch of work performed for survey previous to 1863, (1863) p. v.
- Oba Lake, Ont., note on geology of, (80-82) p. 4 C.
- Oba River, Ont., note on geology of, (80-82) p. 4 C.
- stratified sands in valley, (80-82) p. 8 C.
- list of plants collected from, (80-82) pp. 19-28 C.
- list of coleoptera collected in, (80-82) p. 33 C.
- Obikoba Lake, Lonely River, Ont., granite rocks of, (72-73) p. 121.
- Obituary notice of Sir W. E. Logan by B. J. Harrington, (75-76) pp. 8-21.
- Obolella* in rocks of Dugald Brook, N.S., (76-77) p. 414.
- from Gregwa Brook, N.S., (76-77) p. 430.
- from Indian Brook, N.S., (76-77) p. 430.
- from McLeod Brook, N.S., (76-77) p. 428.
- of St. Simon and Bic, Que., referred to, (76-77) p. 435.
- from Steele Brook, N.S., (76-77) p. 429.
- Obolella chromatica*, Billings, wood-cuts of specimens from Straits of Belle Isle, (1863) p. 284.
- Obolella cingulata*, Billings, wood-cuts of specimens from Straits of Belle Isle, (1863) p. 284.
- Obolella pretiosa*, Billings, wood-cuts of, (1863) p. 230.

- Obolella sandstone, of McAdam Brook, N.S., p. 436.
of Salmon River, near Mira Lake, N.S., (77-78) p. 15 F.
- Obolella slates, near St. Albans, Vt., position in series, (1863) p. 858.
- Obolus Canadensis*, Billings, wood-cut of, (1863) p. 142.
- Obolus Labradoricus*, Billings, wood-cut of specimens from Strait of Belle Isle, (1863) p. 284.
- Observation Cliff, Anticosti Island, height of (1863) p. 223.
- Observation Cove, Darwin Sound, Q.C. Is., B.C., latitude of, (78-79) p. 233 B.
- Obsidian, from 'near Il-ga-chuz Mt., B.C., microscopical examination of, (76-77) p. 78.
source of supply of, at Anahim's Peak, B.C., (76-77) p. 79.
in Tertiary rocks of Masset Inlet, B.C., (78-79) p. 88 B.
- Obuchow's method of producing cast-steel, (66-69) E. p. 293, F. p. 324.
- 'Ocean Nymph,' voyage of from York Factory to London, notes by R. Bell, (79-80) pp. 16-27 C.
- Ochre, note on occurrence of with bog iron-ores and analyses, (1863) pp. 511-513.
descriptions of deposits of, in Canada, (1863) p. 767.
occurrence of, on Athabasca River, noted, (82-84) p. 31 CC.
deposit of, at Cap de la Madeleine, Que., description of, (1863) p. 768.
deposits of, near Owen Sound, Ont., note on, (1863) p. 770.
on north-east part of Paint Mountain, Chibogomow Lake, Que., (70-71) p. 296.
deposits near and in Pointe du Lac, Seignory, Que., note on, (1863) p. 769.
deposits at Ste. Anne de Montmorency, Que., referred to, (1863) p. 768.
deposit of, in Vandfeuil Seig., Que., note on, (1863) p. 770.
- Ochreous earth at Peltoma, N.B., (72-73) p. 227.
- Odonata of Tertiary beds of Quesnel, B.C., (75-76) p. 280.
- O'Farrell vein, gold-bearing quartz, Chaudière R., Que., (63-66) p. 55.
- Ogden road, Clarendon Tp., N.B., pre-Carboniferous rocks, the dark argillites series, (70-71) p. 192.
- Ogoké R., Ont., branch of Albany R., length, volume, &c., (71-72) p. 108.
- O'Hanley road, Boulardrie Island, N.S., gypsum deposits, section of, (75-76) p. 409.
- Ohio sandstone, density of, (63-66) p. 284.
porosity and absorbing power of, (82-84) p. 3 MM.
- Oil, mineral, *see* Bitumen, and Petroleum.
- Oil, from peat, experiments on distillation of, Reece's process, Paul's experiments, (1863) pp. 776-780.
- Oil—*Cont.*
from shales, note on manufacture at Collingwood, Ont., (1863) p. 785.
borings for, made in Kent Co., N.B., note on, (80-82) p. 5 D.
borings made for, at Lake Ainslie, N.S., (82-84) pp. 43-44, 90 H.
borings made in Ontario for, reference to section, (63-66) p. 246.
- Oil-can Portage, Abitibi River, Ont., rocks at, (77-78) p. 36 C.
- Oil-coal, from Marsh Brook, Pictou, N.S., analysis of, (66-69) E. pp. 394-395, F. pp. 437-438.
from Patrick's mine, Pictou Co., N.S., analysis by G. Broome, (66-69) E. p. 394, F. p. 437.
- Oil-coals, paper on by H. How, analysis of, (66-69) E. p. 379, F. p. 420.
- Oil-coal seam, Acadia mines, Pictou, N.S., (66-69) E. p. 70, F. p. 77.
Montreal and Pictou colliery, N.S., analysis of, (66-69) E. p. 388, F. p. 431.
- Oil-coal workings, slopes sunk, value of, quality of coal, (66-69) E. p. 96, E. p. 108.
- Oil Creek, Ont., cited as locality for oil, (1863) p. 523.
- Oil-shale, Patrick's workings, Pictou, N.S., (66-69) E. p. 22, F. p. 25.
- Oil-shale and oil-coals, comparative table of different coals, (66-69) E. p. 379, F. p. 420.
- Oil springs in Gaspé, Que., near anticlines, (63-66) p. 260.
in Peace River, above falls, (75-76) p. 88.
- Oil Springs, Ont., test well, (63-66) p. 246.
- Oil wells of western Ontario, localities cited, short note on, (1863) p. 523.
at Enniskillen, Ont., note on yield, number of wells, etc., (1863) p. 786.
- Okanagan to Cherry Creek, B.C., note on rocks of, age of granites, (77-78) p. 103 B.
to Vermilion Forks, rocks on trail, (77-78) p. 105 B.
- Okanagan Lake, B.C., general description, the Mission settlement, (77-78) p. 55 B.
rocks at north end of and to Salmon River, schists probably similar to Shuswap rocks, (77-78) p. 104 B.
rocks of west side of, (77-78) p. 105 B.
Tertiary rocks of west side, opposite Mission, (77-78) p. 129 B.
glaciation on mountain sides, (77-78) p. 137 B.
diagram showing position of drift deposits, (77-78) p. 143 B.
high terrace of white silts, (77-78) p. 144 B.
terraces in the vicinity of, elevations, (77-78) p. 147 B.
limestone of vicinity of, (77-78) p. 163 B.
assay of quartz for gold and silver, (82-84) p. 17 MM.
- Okanagan Mt., B.C., rocks of granitic core, gneisses, (77-78) pp. 101-102 B.
glaciation of, (77-78) p. 137 B.

- Okanagan Mt., B.C. — *Cont.*
 elevation of terraces on, (77-78) p. 146 B.
 general note on, (82-84) p. 8 B.
- Okanagan River, B.C., gold on, (76-77) p. 143.
 general description of, (82-84) p. 6 B.
- Okanagan Valley, B.C., general description
 from Osoyoos Lake to Okanagan Lake,
 (77-78) pp. 52-57 B.
 mode of formation, (77-78) p. 53 B.
 terraces in, (82-84) p. 34 B.
 note on probability of diversion of streams
 northward, (82-84) p. 41 B.
- O'Leary's opening on Newcastle River, N.B.,
 section of Coal Measures at, (72-73)
 p. 202.
- Old drainage-channels, significance of on Great
 Plains, (82-84) p. 150 C.
- Old lake-basins, N.W.T., west of Thickwood
 Hills, (73-74) p. 33.
- Old Loch Lomond road, St. John, N.B., rocks
 of Div. 4, pre-Silurian, exposed on, (77-78)
 p. 25 DD.
 extension of Primordial rocks eastward,
 (77-78) p. 28 DD.
- Old Man River, Alta., upturned beds near Belly
 River, outside disturbed belt, (80-82)
 pp. 3-4 B.
 width of disturbed belt on, (80-82) p. 3 B.
 change in colour of Pierre shales on, (80-82)
 p. 7 B.
 sections of coal measures on Middle Fork,
 (80-82) pp. 18-19 B.
 thickness of coal-seam on North Fork,
 (80-82) p. 19 B.
 general description of, (82-84) pp. 23-25 C.
 below Fort MacLeod, illustration showing
 valley of, (82-84) facing p. 24 C.
 beds exposed below Fort MacLeod, (82-84)
 pp. 67-69 C.
 geology of in foot-hills or disturbed belt,
 (82-84) pp. 97-103 C.
 thickness of upper portion of Belly River
 Series on, (82-84) p. 116 C.
 list of coal outcrops on branches of, (82-84)
 p. 131 C.
 high terraces in upper part of, (82-84)
 p. 146 C.
 North Fork, analyses and calorific power of
 coal from, (82-84) pp. 33-36 M.
- Old Louisburg road, near Albert Bridge, Mira
 River, N.S., shales and sandstones on,
 (77-78) p. 11 F.
- Old Wives Lakes, Assa., (Chaplin and Johns-
 ton Lakes) R. Bell's course in 1873 past,
 stream entering, saline waters, (73-74)
 p. 76.
- Old Wives Lakes, Keewatin, route to from
 Island Lake, (77-78) p. 32 C.
- Olden Tp., Ont., line of section through lime-
 stone bands, (72-73) p. 160.
 coarse syenite and diorite band in, (74-75)
 p. 138.
 occurrences of banded limestones of Lanark,
 noted, (74-75) p. 146.
- Olden Tp., Ont. — *Cont.*
 syenite rocks extending into, (74-75) p. 148.
 analysis of magnetite from lot 17, R. XI.,
 (80-82) p. 8 H.
- Olden's coal-seam, Pictou, N.S., (66-69) E. p. 32,
 F. p. 36.
- Oldham, N.S., statistics of gold for 1869-71,
 (71-72) p. 150.
- Oligist, *see* Hematite.
- Oligoclase from Fournier mine, Ont., analysis
 of, (73-74) p. 198.
 occurrence of at Grenville, Que., (63)
 p. 209.
 of Mt. Johnson, Que., analysis of, (1)
 p. 477.
- Oliver lode, Charlotte Co., N.B., copper-ore
 mined, p. 343.
- Olivier's mills, Bayonne River, Que., exposures
 of Trenton Group at, (1863) p. 149.
- Olivine, description and analysis of mineral,
 localities of occurrence, (1863) p. 464.
 in Canada, note by B. J. Harrington, (77-78)
 pp. 39-42 G.
 altered to serpentine, diagram showing
 crystals partially altered, (77-78) p. 42 G.
 from Kamloops, B.C., microscopical de-
 scription, (77-78) p. 41 G.
 from Mount Albert, Que., description of
 rock-mass, (77-78) p. 40 G.
 from Ste. Anne, Que., analysis and micro-
 scopical description of, (77-78) p. 39 G.
 from South Lake, Antigonish Co., N.S.,
 note on, (77-78) p. 41 G.
- Olivine-dolerite from Montarville, Que., analysis
 of, (1863) p. 666.
- Olivine rocks, general characters of, (1863)
 p. 652.
 of Mount Albert, Gaspé, examination of by
 F. D. Adams, (82-84) p. 20 F.
- Ombabika Bay, Lake Nipigon, Ont., appearance
 of shores, (66-69) E. p. 344, F. p. 380.
 soil and extent of good land north-east of,
 (66-69) E. p. 356, F. p. 394.
- Ombabika, north peninsula of, rocks of, (66-69)
 E. p. 344, F. p. 380.
- Ombabika, south peninsula of, Nipigon sand-
 stones of, (66-69) E. p. 344, F. p. 381.
- Ombabika River, Ont., P. McKellar's report of,
 Indian description of, (66-69) E. p. 344,
 F. p. 380.
 rises in lake, having outlet also towards
 north, (66-69) E. p. 344, F. p. 380.
 limestone reported by Indians at head of,
 (66-69) E. p. 349, F. p. 386.
 soil and extent of arable land, (66-69)
 E. p. 356, F. p. 394.
 survey and description of, (71-72) pp. 106-
 107.
 source of, height of Shoal Lake, (71-72)
 p. 107.
 Laurentian gneiss of, (71-72) p. 108.
- Omineca, B.C., galena from, (76-77) p. 116.
 gold localities in, (76-77) p. 140.

Omineca, B.C.—*Cont.*

- assay of quartz from Champion ledge and Boulder Creek, (78-79) p. 24 H.
- heights of points in district, (79-80) p. 25 B.
- note on routes to, economic importance and assays of argentiferous galena from, (79-80) pp. 110-112 B.
- number and wages of miners, summer of 1879, (79-80) p. 112 B.

One-mile Portage, Nipigon River, Ont., (66-69) E. p. 337, F. p. 372.
 garnetiferous mica-schist at, (66-69) E. p. 339, F. p. 374.

Oneida, Ont., masses of travertine at, referred to, (1863) p. 455.
 analysis of dolomite from, (1863) p. 625.
 reference to analysis of dolomite, analysis of calcined dolomite, (1863) p. 807.

Oneida conglomerate in New York, general characters of, (1863) p. 310.

Oneida Lake, N.Y., height of, (1863) p. 13.

Oneida Tp., Ont., note on plaster beds near Mount Healey, Ont., (1863) p. 348.
 exposures of Oriskany sandstone, (1863) p. 360.

Onkosine, similar to dysyntribite, (1863) p. 486.

Onondaga salt-brines of New York, composition of, (63-66) p. 267.

Onondaga Formation in Ontario and New York, description and distribution of, (1863) pp. 345-352.

deposited from saturated waters, absence of organic remains, thickness of formation, (1863) p. 346.

probably continued under Lake Huron to Mackinaw Straits, (1863) p. 352.

acid springs arising from, (1863) p. 561.
 note on rocks of, cavities, analyses of dolomite, (1863) p. 625.

lithographic stone in, (1863) p. 835.
 compared with non-saline rocks below, (66-69) E. p. 214, F. p. 237.

as shown in borings at Goderich, Ont., (66-69) E. p. 214, F. p. 236.

thickness and extent, (63-66) pp. 237, 263.
 found salt-bearing at Goderich, Ont., (63-66) p. 267.

soft marls of lower part, (63-66) p. 268.
 thickness, results of borings in Canada, (63-66) p. 268.

record of well at Goderich, Ont., (63-66) p. 268.

Onondaga limestone, a New York subdivision of Corniferous Formation, (1863) p. 361.
 thickness of, (63-66) E. p. 218, F. p. 240.

Ontario, table of rock formations of, compared with Great Britain and United States of America, (1863) p. 932.

note on comparative table of formations, (1863) p. 934.

map showing superficial deposits of, (1863) At as.

summary of work by H. G. Vennor in, during 1869, (69-70) p. 5 Summ.

Ontario—*Cont.*

record of mining statistics for 1869-71, (71-72) p. 147.

list of blast-furnaces in, notes on each, (73-74) p. 246.

rainfall for 1872, (74-75) p. 274.

tables showing number of salt-works with wells, (74-75) p. 289.

table showing number of salt-works without wells, (74-75) p. 293.

table showing capacity of salt-works and system of manufacture, (74-75) pp. 294-295.

capital and labour employed in salt manufacture, table showing, (74-75) p. 296.

quantity and value of salt made in 1872-73, (74-75) p. 298.

progress of work in for 1876-77, (76-77) p. 3.

fundamental rock of, (76-77) p. 266.

oldest stratified rocks in, (76-77) p. 268.

A. Murray's explorations in, (76-77) p. 269.

general remarks on explorations in, (76-77) p. 269.

general geological structure of, (76-77) p. 272.

nucleus of gneiss in, (76-77) p. 273.

note on richness in number of trees, (79-80) p. 43 C.

explorations carried out in 1882 in western part, (80-82) pp. 16-17.

notes on mines in, by C. W. Willmott, (82-84) pp. 5-15 L.

for *geology of the several Counties* see *Part I.*, pp. 11-15.

Ontario Co., Ont.:—

for *general geology* see *Part I.*, p. 14.

Ontario Lake, *see* Lake Ontario.

Ontario mine, N.S., *see* Clyde mine, (72-73) p. 273.

Ontario salt-works, Goderich, Ont., yield of, (66-69) E. p. 223, F. p. 246.

Oolachen fish, tradition among Haida and Tshimsians as to origin of, (78-79) p. 151 B.
 grease from, used by Indians of Q.C.Is., source of, (78-79) p. 112 B.

trade in by Indians of west coast of British Columbia, (78-79) p. 136 B.

Oolitic band in shales at The Forks, Albany River, Ont., (71-72) p. 113.

Oolitic fossiliferous limestones of Blue Cape, Antigonish, N.S., (79-80) p. 61 F.

Oolitic limestones of Chatte River, Que., rocks associated with, (1863) p. 264.

note on, (1863) p. 631.

Ootsabunkut Lake, B.C., rocks from, (76-77) p. 88.

Opalescent feldspars, general note on occurrence of, (1863) p. 480.

Ophileta compacta, Salter, wood-cut showing upper and lower sides, (1863) pp. 102, 115.

Ophileta Ottawaensis. Billings, wood-cuts of, (1863) p. 180.

- Ophioglypha Lutkeni*, Lyman, notes on specimens from Queen Charlotte Islands, (78-79) p. 191 B.
- Ophiolites, general description with analyses, (1863) pp. 471-473.
 derived generally from stratified rocks, (1863) p. 644.
 calcareous, note on, with analysis of specimens from Orford Tp., Que., (1863) p. 609.
 conglomerate from Brompton Lake, Orford Tp., Que., analyses of parts of, (1863) p. 610.
 dolomitic, from Orford Tp., description of, (1863) p. 609.
 Huronian, general description with Whitney's analyses, (1863) p. 595.
 Laurentian, general note on, (1863) p. 591.
 magnetic, note on, examples of, analysis of specimen from Roxbury, Vt., (1863) p. 611.
 stratified, of Mt. Albert, Que., note on, (1863) p. 266.
 of Newfoundland, section of in Pistolet Bay, ores of, (1863) p. 875.
 of Quebec Group, note on, (1863) p. 608.
 of Syracuse, New York, example of local metamorphism, analysis of, (1863) p. 635.
- Opinicon Lake, Bedford Tp., Ont., apatite-bearing band at, (70-71) p. 315.
 limestone bands at, (72-73) p. 171.
- Ops Tp., Ont., fossils found in Trenton, at Lindsay, (1863) p. 191.
- Opsatika Lake, Ottawa R., gneiss and granite vein, (72-73) p. 121.
 magnetite and pyrrhotite, (72-73) p. 132.
 magnetite in chloritic rocks, (72-73) p. 205.
- Orangeville, Ont., yellowish white limestone of Niagara Formation (1863) p. 328.
 anticline probably runs south to Rockwood and effects Guelph Formation (1863) p. 343.
- ORD, L. R., work of, in Pontiac and Ottawa Cos., Que., (76-77) p. 277.
 work of, in Berthier, Maskinongé and St. Maurice Cos., Que., (79-80) p. 4.
 field work for 1880 in Nova Scotia, as assistant to H. Fletcher, (82-84) p. 3 H.
- Oregonia gracilis*, Dana, note on specimens from Virago Sound and Vancouver Is., (78-79) p. 209 B.
- Orford copper-ores of Que., references to, (63-66) p. 39.
- Orford Mountain, Que., felspathic rocks of, (1863) p. 250.
- Orford Nickel mine, Que., notes on operations at, (80-82) p. 5 GG.
- Orford Tp., Que., twin crystals of pyroxene obtained, analysis of, (1863) p. 467.
 analyses of diallage rocks from, (1863) p. 469.
 analysis of serpentine from, (1863) p. 472.
 note on white garnet rocks of, analysis, (1863) p. 496.
 analysis of petrosilex from, (1863) p. 599.
 analysis of diorite from Brompton Lake, (1863) p. 603.
- Orford Tp., Que.—*Cont.*
 analysis of calcareous ophiolite from, (1863) p. 609.
 analysis of conglomerate ophiolite from Brompton Lake, (1863) p. 610.
 copper-ores found in, note on, (1863) p. 731.
 millerite, nickel-ore found in, (1863) p. 738.
 note on serpentines of, (1863) p. 825.
 note on slates found in, (1863) p. 830.
 examinations by A. Michel for gold, (63-66) p. 62.
 copper-ore localities in, (63-66) p. 302.
 hornblende granite from lot 3, R. XV, microscopic structure of, (80-82) p. 10 A.
- Organic matter in mineral-waters of Canada, (1863) p. 560.
- Organic remains, of the Potsdam Group with illustrations, (1863) pp. 100-108.
 in Leda Clay in southern New Brunswick, (77-78) pp. 23-31 EE.
- Organic structure and form of minerals in Laurentian, (63-66) p. 191.
- Origin, of Canadian apatite-deposits, note by J. F. Torrance, (82-84) pp. 23-24 J.
 of fire and water, tradition among Haidas, (78-79) p. 150 B.
 of gold in Peace River, note on, (75-76) p. 82.
 of kames and terraces in Central New Brunswick working theory of, foot note by R. Chalmers, (82-84) pp. 41-42 GG.
 of light, tradition among Haidas, (78-79) p. 151 B.
 of natural gas, (63-66) p. 259.
 of oil in deep wells in western, Ont., possibly in Trenton, (63-66) p. 254.
 of oolachen fish, tradition among Haidas and Tshimisians, (78-79) p. 151 B.
 of placer gold in Bow and Belly region, Alta., (82-84) p. 152 C.
 of prairies of Peace River district, (79-80) p. 68 B.
 of quartzite-shingle of western plains, (82-84) p. 142 C.
 of salt-beds, (63-66) p. 264.
 of tobacco, tradition among Haida Indians, (78-79) p. 152 B.
 of Willow Creek beds in Laramie of Alberta, (82-84) p. 113 C.
 of valleys of Athabasca and Clearwater Rivers, (82-84) p. 30 CC.
- Oriskany Formation, in Ont., distribution and fossils, (1863) pp. 360-361.
 divisions of, in New York, distribution of sandstones in Canada, fossils found in, (1863) pp. 359-361
 in Gaspé, evidences of organic life found in rocks of, (1863) p. 403.
 wood-cuts of fossils of, (1863) pp. 960-962.
- Oriskany sandstone, characters and distribution in N.Y., (1863) p. 359.
- Orleans cement-works, Que., statistics for 1869-71, (71-72) p. 148.
- Orleans Island, Que., the Hudson River rocks probably in St. Lawrence channel near, (1863) p. 200.

Orleans Island, Que.—*Cont.*

- section of Lévis division of Quebec Group, (1863) pp. 225-229.
evidence of fault in rocks of section from Montmorency, (1863) p. 234.
reference to gaps in section showing position of lower black shales, (1863) p. 241.
concretionary masses of calcite in rocks of, (1863) p. 455.
analysis of glauconite from, (1863) p. 487.
iron-pyrites in rocks of, noted, (1863) p. 514.
note on occurrence of anthraxolite at, (1863) p. 525.
analysis of dolomite from, (1863) p. 613.
section of Quebec Group, reference to, (1863) p. 31.
Ornamental stones, of Cape Breton, N.S., notes on, (75-76) p. 418.
of Cape Breton Co., N.S., (77-78) p. 30 F.
of East Main coast, note on, (77-78) pp. 22-23 C.
of headwaters of Piskahagan R., Sunbury Co., N.B., (75-76) p. 352.
of southern New Brunswick, note on, (70-71) pp. 235-236.
Ornaments, minerals useful for, agates, porphyries, feldspars and jaspers, (1863) pp. 831-834.
used by Haida Indians, Q.C.Is., (78-79) p. 107 B.
of puffins bills made by Haida Indians, illustrated on plate X, (79-79) p. 137 B.
Oromocto Lake, York Co., N.B., position and size, (66-69) E. p. 179, F. p. 198.
examples of collection of boulders, (82-84) p. 11 GG.
surface geology of basin of, (82-84) p. 18 GG.
description of kame at north end of, (82-84) p. 26 GG.
Oromocto River, N.B., Middle and Upper Carboniferous on north-west branch of, (72-73) p. 220.
coal-seam below Hardwood Creek on north-west branch, (72-73) p. 220.
exposure of surface seam of coal, on north-west branch, (78-79) p. 20.
Orser's mill, Beccaguimic River, N.B., conglomerate at, (66-69) E. p. 197, F. p. 218.
Orthalidæ of the Tertiary beds, of Quesnel, B.C., (75-76) pp. 276-277.
Orthis acuminata, Billings, wood-cut of ventral valve, (1863) p. 130.
Orthis borealis, Billings, wood-cuts of, (1863) pp. 129, 167.
Orthis Davidsoni, De Verneuil, wood-cuts of, (1863) p. 312.
Orthis disparalis, Conrad, wood-cut of ventral valve, (1863) p. 130.
Orthis Electra, Billings, wood-cuts of, (1863) p. 231.
Orthis elegantula, Dalman, wood-cuts of, (1863) p. 312.

- Orthis imperator*, Billings, wood-cut of, (1863) p. 129.
Orthis insculpta, Hall, wood-cuts of, (1863) p. 167.
Orthis lowensis, Hall, notes on specimens of, from Clearwater R., Atha. (75-76) pp. 105-106.
Orthis Livia, Billings, wood-cuts of, (1863) p. 369.
Orthis Lynx, Eichwald, wood-cuts of, (1863) p. 167.
Orthis occidentalis, Hall, wood-cuts of, (1863) p. 210.
Orthis orthambonites, Pander, wood-cuts of, (1863) p. 231.
Orthis pectinella, Conrad, wood-cuts of, (1863) p. 115.
Orthis perveta, Conrad, wood-cuts of, (1863) p. 130.
Orthis platys, Billings, wood-cuts of, (1863) p. 129.
Orthis plicatella, Conrad, wood-cuts of, (1863) p. 165.
Orthis porcata, McCoy, wood-cuts of, (1863) p. 312.
Orthis Porcia, Billings, wood-cuts of, (1863) p. 130.
Orthis subquadrata, Hall, wood-cuts of, (1863) p. 165.
Orthis testudinaria, Dalman, wood-cuts of, (1863) p. 165.
Orthis tricenaria, Conrad, wood-cuts of, (1863) p. 167.
Orthis Tritonia, Billings, wood-cuts of, (1863) p. 231.
Orthis Vanuzemi, Billings, wood-cut of, (1863) p. 384.
Orthisina festinata, Billings, wood-cuts of specimens from Swanton, Vt., (1863) p. 284.
Orthisina grandæva, Billings, wood-cut of ventral valve, (1863) p. 113.
Orthoceras anceps, Hall, wood-cut of, and section, (1863) p. 150.
Orthoceras Becki, Billings, wood-cut of, (1863) p. 121.
Orthoceras Bigsbyi Stokes, wood-cut and section, (1863) p. 149.
Orthoceras crebrisseptum, Hall, wood-cut and section, (1863) p. 218.
Orthoceras deparcum, Billings, wood-cut of, (1863) p. 121.
Orthoceras Lamarcki, Billings, wood-cut of, (1863) p. 121.
Orthoceras Montrealense, Billings, wood-cut of, (1863) p. 121.
Orthoceras sordidum, Billings, wood-cut of, (1863) p. 121.
Orthoclase feldspar general description, varieties of, analyses of, (1863) pp. 474-477.

Orthoclase feldspar—*Cont.*

- in apatite-bearing rocks, Ottawa Co., Que., note on, (77-78) p. 30 G.
analysis of, from Buckingham, Que., (76-77) p. 511.
occurrence of crystals of, at Clifton, N. B., (70-71) p. 238.
in argillite at St. Francis copper mine, Cleveland Tp., Que., (1863) p. 606.
mode of occurrence in Laurentian, (63-66) p. 209.
of trachytic rocks, analyses of, (1863) p. 476.
in veins, vicinity of L. Superior, analysis of, (1863) p. 476.
see Feldspar.
- Orthoclase gneiss, general description of, (1863) pp. 22-23.
of Lake Superior, general description, (1863) p. 48.
- Orthonota parallela*, Hall, wood-cut of, (1863) p. 216.
- Orthophyre of Grenville, Que., characters and analysis of, (1863) p. 654.
- Osborn's metallurgy of iron and steel, extract from, on titanite-ore smelting, (66-69) E. p. 253, F. p. 280.
- Osgoode Tp., Ont., distribution of Calciferous in, (1863) p. 118.
Chazy Formation, probable position, fault in, (1863) p. 127.
red shales of, probably same as in Russell Tp., (1863) p. 219.
- Oshawaga, Ont., exposures of Trenton limestone at, (1863) p. 189.
eastern outcrop of Utica Formation south of, (1863) p. 210.
- Os-ka-boo-ku-ta River, Ont., branch of White River, Algoma, (70-71) p. 344.
- Osmond furnace, used in Norway and Sweden, description of, (66-69) E. p. 271, F. p. 300.
- Osnabruck Tp., Ont., exposures of Trenton limestone in, fossils of, (1863) pp. 172-173.
peat deposits in, noted, (1863) p. 780.
- Oso Tp., Ont., limestone bands in, (72-73) p. 160.
coarse syenite and diorite band, (74-75) p. 138.
width of limestone band in, (74-75) p. 140.
banded limestones of Lanark, noted, (74-75) p. 146.
tremolitic dolomite band in, width of band, weathered surfaces, (74-75) pp. 147-148.
- Osoyoos Lake, B.C., description of, height, length, terraces and gravel bars, (77-78) p. 52 B.
description of rocks at, (77-78) pp. 87-88 B.
note on general glaciation of valley and hills near, (77-78) p. 137 B.
diagrammatic section of Tertiary basin north of, (77-78) facing p. 174 B.
elevation of, (82-84) p. 6 B.
description of rocks of, (82-84) p. 19 B.
porphyritic gneiss compared with Laurentian, (82-84) p. 31 B.
- Osoyoos trail, from Hope, B.C., description of route, (77-78) pp. 45-51 B.

- Osprey Lake, west of Okanagan Lake, B.C., origin of, situation, character of valley westward, (77-78) p. 44 B.
granitic rocks of, (77-78) p. 105 B.
moraine near, contemporaneous benches, elevation, (77-78) p. 150 B.
- Ostrya Virginica*, Willd., note on range of in Canada, (79-80) p. 52 C.
- Otnabog River, N.B., coal-seams reported and sandstones of, (72-73) p. 219.
note on boring at Gagetown road, (74-75) p. 92.
- Ottawa, Ont., the Trenton Group exposed at, total thickness and fossils of, (1863) pp. 165-167.
examples of fossil remains replaced by dolomite, analysis of dolomite, (1863) p. 457.
semi-transparent white prisms of pyroxene reported from near, (1863) p. 467.
analysis of bytownite from near, (1863) p. 479.
deposits of marl in vicinity, (1863) p. 765.
note on limestone of for building purposes, (1863) p. 817.
height of river at, (1863) p. 916.
longitude determined by E. D. Ashe, (1863) p. 9 Atlas.
- Ottawa Co., Que., map showing distribution of Laurentian in part of, scale 7 m. = 1 in., (1863) p. 7, Atlas.
notes on plumbago and phosphate deposits of, (73-74) pp. 139-146.
work in by H. G. Vennor in 1876-77, (76-77) p. 3.
report on, with map of, (76-77) pp. 277-320.
map showing distribution of apatite rocks and mines, accompanying, (76-77) explorations in, note on, (76-77) p. 277.
distribution of limestone in, (76-77) pp. 292-299.
field-work in, by H. G. Vennor, during 1876, (76-77) p. 294.
apatite and plumbago in, (76-77) pp. 301-320.
note respecting map, (76-77) p. 319.
report on minerals in apatite-bearing veins of, (77-78) pp. 1-37 G.
report on apatite-deposits of by J. F. Torrance, (82-84) pp. 5-32 J.
for general geology see also Part I., p. 10.
- Ottawa River, note on navigation of lower part, (1863) p. 10.
westward extension of crystalline-limestone on, (1863) p. 46.
forming approximate boundary for Laurentian rocks, (1863) p. 47.
distribution of Potsdam sandstone in valley of, (1863) pp. 94-95.
distribution of Calciferous Formation in valley of, (1863) pp. 115-118.
the Chazy Formation near Grenville, (1863) p. 130.
note on escarpments of Trenton Group, (1863) p. 167.
outliers of Utica and Hudson River rocks in valley of, (1863) pp. 219-220.

Ottawa River—*Cont.*

- water of, general examination and analyses of, (1863) pp. 565-568.
 boulder-ridges or moraines in valley, (1863) p. 895.
 the Leda clay and upper sand deposits of valley of, (1863) pp. 916-917.
 survey of, made by Sir W. Logan, 1845, reference to, (1863) p. 11 Atlas.
 surveys of upper part by A. Murray in 1847 and 1853-56, referred to, (1863) p. 11 Atlas.
 between Lake Temiscaming and Lac des Quinze, portages and description of rocks, (72-73) pp. 115-119.
 exploration in 1876 south of, (76-77) p. 194.
 reference to limestone bands of, (76-77) p. 203.
 limestones in Renfrew Co., (76-77) p. 247.
 distribution of crystalline-limestones in valley of, (76-77) p. 281.
 syncline of crystalline-limestones in valley of, (76-77) p. 282.
 note on solid matter in and hardness of water of, (78-79) p. 12 C.
- Ottawa and Prescott Railway, Ont., note on general level of plateau shown on, (1863) p. 8.
- Otter Brook, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 20 H.
- Otter Brook, Oromocto River, N.B., Carboniferous rocks south of, (72-73) p. 220.
- Otter Head, Lake Superior, reference to rocks of, (1863) p. 48.
 Huronian bands near, (1863) p. 63.
 copper-ores of vicinity of, (1863) pp. 704-705.
- Otter or Cypress Lake, International boundary, Thunder Bay District, Ont., dioritic schists of, (72-73) p. 93.
- Otter Lake, St. Johns Co., N.B., gravel ridge on north side of, (77-78) p. 14 EE.
- Otter Lake, Simonds Tp., N.B., pre-Silurian rocks of, (77-78) p. 12 DD.
- Ottertail Lake, Thessalon River, Ont., hone-stones in Huronian rocks, at, (1863) p. 809.
- Ottertail River, Branch of Peace River, width, current, trout, (75-76) p. 45.
 sandstones at mouth of, (75-76) p. 75.
 illustration showing Peace River at mouth of, (75-76) facing p. 75.
 plants observed at, (75-76) p. 150.
- Otonabee River, Ont., the Trenton Group exposed on, (1863) p. 189.
- Otty Lake, Drummond Tp., Ont., Potsdam sandstone on, (1863) p. 93.
- Otty Lake, North Burgess Tp., Ont., vein of apatite on McKinley's lot, (70-71) p. 320.
 crystalline-limestone band, (72-73) p. 168.
- Oukaosipi River, near Michipicoten, Ont., analysis of iron-ore from, (78-79) p. 15 H.
- Outcrops of coal-seams, in southern Alberta, list of, (82-84) pp. 130-131 C.

Outcrops of coal-seams—*Cont.*

- south-west of Springhill Mining Company's west slope, Springhill, N. S., (73-74) pp. 155-159.
- Outer Barn, Lake Nipigon, Ont., height of, (66-69) E. p. 349, F. p. 386.
- Outer and Inner Barns, Lake Nipigon, illustration showing, (77-78) facing p. 17 C.
- Outlet of Lake Nipigon, a small stream from South Bay to Lake Hannah, as well as the main river, (71-72) p. 102.
- Outlets of Manitou or Tecumseh Lake, Manitoulin Island, (1863) p. 334.
- Outlet of Richmond Gulf, illustration of, (77-78) facing p. 14 C.
- Outliers, of Carboniferous rocks on Christmas road, N.S., (76-77) p. 409.
 of Lower Carboniferous in Carleton Co., N.B., (70-71) p. 243.
 of Carboniferous on St. John River, N.B., above Woodstock, (66-69) E. p. 196, F. p. 218.
 of Chazy Formation on upper Ottawa River, (1863) pp. 128-129.
 of Silurian, near Arnprior and in Valley of Madawaska River, Ont., (75-77) pp. 246-273.
 of Trenton, near Murray Bay, Que., (1863) p. 163.
 of Utica and Hudson River in Lévis beds, Gaspé, explanation of, (80-82) p. 31 DD.
- Ouvrovite of Ural Mts., resemblance of to chrome-garnet of Orford Tp., Que., (1863) p. 497.
- Oval-rock Lake, Wabinoosh River, Lake Nipigon, elevation, size, (71-72) p. 105.
- Overland telegraph trail, Quesnel to Fraser Lake, B.C., (75-76) pp. 32-33.
- Overlap of Cretaceous, in Cumshewa Inlet, Q. C. Is., character of, (78-79) p. 81 B.
 of Cretaceous on Triassic, at Skedans Bay and Point Vertical, Louise Island, Q. C. Is., (78-79) p. 62 B.
- Overlap folds in Potsdam, near St. Raphael, Que., (66-69) E. p. 122, F. p. 136.
- Overturn of Primordial and Huronian, on Ratcliffe mill-stream, St. John Co., N.B., (70-71) p. 63.
 St. John Group and Huronian rocks at Musquash Harbour, N.B., (70-71) p. 60.
 of St. John Group and associated rocks at Courtney Bay, N.B., (70-71) p. 138.
- Overturn dips in Quebec Group, general note on, (1863) p. 237.
- Overturned anticline, accounting for position of pre-Cambrian rocks of Gaspé, Que., (82-84) p. 31 E.
- Overturned folds in limestones of Marble Cañon, B.C., (77-78) p. 90 B.

- OWEN RICHARD, specific names applied by, to tracks in Potsdam sandstone from Beauharnois, Que., (1863) p. 105.
- OWEN, D. D., reference to work on Azoic rocks west of Lake Superior, (1863) p. 65.
- Owen Sound, Ont., Hudson River Formation north-east of, (1863) p. 214.
dolomite at base of Clinton, fossils of, orbbed in Clinton Formation, (1863) p. 318.
note on building stones obtained from Niagara limestones of, (1863) p. 329.
note on deposit of ochre at, (1863) p. 770.
building stone at, note on, (1863) p. 821.
description of Erie and Saugeen clays at, section across Sydenham River, (1863) p. 898.
lacustrine deposit of sand and gravel at mouth of Sydenham River, shells found, terraces above lake at, (1863) p. 912.
- Owl Brook, St. Andrew Channel, N.S., section of Lower Silurian near, (75-76) p. 393.
- Owls Head, Lake Memphremagog, Que., syncline terminating at, rocks of, (1863) pp. 251-252.
syncline running north from, rocks of, fossils found, (1863) pp. 435-436.
copper-ores found on north side of, (1863) p. 731.
microscopic structure of altered diabase from, (80-82) p. 13 A.
- Owls Head, N.B., basal beds of Lower Carboniferous, fossils in, (70-71) p. 211.
- Oxalite, reference to occurrence of at Kettle Point, Bosanquet, Ont., (1863) p. 513.
- Ox-bow, Saugeen River, Ont., exposures of Onondaga Formation at, (1863) p. 351.
- Oxford Co., Ont.:—
for general geology see *Part I.*, p. 14.
- Oxford House, Keewatin, deep hole in lake near, (77-78) p. 5 CC.
crops grown at, frost in ground, (77-78) p. 30 CC.
illustration showing view of from north-west, (79-80) frontispiece to Part C.
character of soil at, high ridge north of, (78-79) p. 32 C.
to Knee Lake and Echimamish River, lists of plants collected by R. Bell, 1880, (79-80) pp. 59-69 C.
to Norway House, list of coleoptera collected by R. Bell, (79-80) pp. 71-72 C., and (80-82) pp. 33-36 C.
- Oxford Lake, Keewatin, general description of, (77-78) p. 5 CC.
Huronian rocks of, character of contact with Laurentian, (77-78) p. 21 CC.
sandy tract on north side of, (78-79) p. 32 C.
to Gods Lake, list of observed strikes of gneiss, (78-79) p. 34 C.
note on Huronian rocks on east side of, (78-79) p. 36 C.
fossil from rocks of Walkers Island, (78-79) p. 51 C.
- Oxford Point, N.S., Capel Point coal-seams at, (74-75) p. 236.
- Oxford Tp., Grenville Co., Ont., distribution of the Calciferous in, (1863) p. 118.
sand deposits of, (1863) p. 924.
- Oxford Tp., Oxford Co., Ont., note on oil-springs and wells, (1863) p. 787.
- Oxide of iron, Meganatawan River, Ont., (76-77) p. 202.
- Oxland's furnace, description of, recommended for Marmora smelting-works, Ont., (71-72) p. 136.
- Oxnard's Point, Grand Manan Island, schists, etc., of coast at, (70-71) p. 108.
- Ox-tongue Lake, Ont., drab clay found near, (1863) p. 907.
- Oyster Harbour, B.C., thin seams of coal noticed on, (73-74) p. 99.
rocks at, (76-77) p. 182.
- Oyster Pond, St. Anne Harbour, N.S., contact of Carboniferous and syenite, (75-76) p. 409.
- Oyster Ponds, Guysborough, N.S., fossiliferous rocks of vicinity, (79-80) pp. 49-50 F.
- Oysters, localities in northern Cape Breton where found, (82-84) p. 83 H.
- Ozocerite, in Trenton at Rivière du Loup, Que., (63-66) p. 252.
- Pabineau Falls, Nipisiguit River, N.B., illustration showing, (79-80) facing p. 33 D.
- Pacific-Arctic watershed, height of between Stuart Lake and McLeod Lake, B.C., (79-80) p. 31 B.
- Pacific Ocean, mean temperature of sea near west coast of B. C., (79-80) p. 8 B.
- Pack River, B.C., described by A. R. C. Selwyn, (75-76) p. 38.
Palaeozoic rocks of, (75-76) p. 79.
general description, character of surrounding country, (79-80) p. 34 B.
- Packing salt, methods of, (74-75) p. 280.
- 'Paddock,' the Little, North Thompson River, B.C., thick forests, (71-72) p. 28.
- Paint Hills, near Fort George, Hudson Bay, rock specimens from, (75-76) p. 342.
Huronian bands on islands off, (77-78) p. 10 C.
- Paint Mountain, Lake Chibogomow, Mistassini, Que., Huronian schists near, (70-71) p. 293.
copper- and iron-ores, ochre, (70-71) pp. 295-296.
height and situation of, (70-71) p. 302.
- Paint seam, near Low Point, N.S., section on coast, (74-75) p. 227.
- Paints used by Haida Indians, (78-79) p. 107 B.
- Paipoonge Tp., Thunder Bay, Ont., lead-ore in, (66-69) E. p. 358, F. p. 397.
- Paisley, Ont., exposures of thin bedded dolomites of upper part of Onondaga Formation, (1863) p. 351.
clays of vicinity, reddish-brown clay overlying sand, (1863) p. 899.
- Pakenham, Ont., the Potsdam sandstone of vicinity of, Lower Silurian outlier noted, (1863) p. 93.

- Pakenham, Ont.—*Cont.*
petroleum in fossils of Trenton Group, (1863) p. 521.
- Pakenham Mills, Ont., list of post-Tertiary fossils found at, (1863) pp. 926-928.
marine and fresh-water shells found in sandy clay, (1863) p. 924.
- Pakenham Tp., Ont., distribution of the Calciferous Formation in, (1863) pp. 117-118.
the Chazy Formation in, (1863) p. 128.
the Trenton outlier at Dickson's mills, (1863) p. 175.
note on dark marble, (1863) p. 827.
- Pa-kow-ki Coulée, Alta., Belly River beds and lower shales at mouth of, trap intrus on, (82-84) p. 43 C.
probable origin of, (82-84) p. 150 C.
- Pakowki Lake, Alta., note on, area, old channels, (82-84) p. 16 C.
- Palæoniscus modulus*, Dawson, note on specimens obtained from Lower Carboniferous of New Brunswick, (78-79) p. 18 D.
- Palæontological branch, Geological Survey, summary of work of 1872-73. (72-73) p. 2.
during 1873-74, (73-74) pp. 5-6.
for 1875, (75-76) p. 5.
for 1876-77, (76-77) p. 5.
during 1882, (80-82) pp. 22-26.
- Palæontological breaks, in Palæozoic rocks in eastern Canada, (1863) p. 295.
- Palæontological collections added to Museum, (70-71) p. 10.
during 1874-75, (74-75) p. 11.
- Palæontological publications, issued by Survey, note on progress of, (82-84) p. 15.
- Palæontological stratigraphy, errors in, (77-78) p. 14 A.
- Palæozoic coals not found in Canadian Northwest, (79-80) p. 13 A.
- Palæozoic formations, possible connection between Rocky Mt. series and Manitoba rocks, (73-74) p. 53.
- Palæozoic limestone on Hill Lake, Nelson River valley, (79-80) p. 9 C.
- Palæozoic rocks, general descriptions, (1863) pp. 597-642.
of first prairie steppe. note by A. R. C. Selwyn, (73-74) p. 21.
on Hayes River, supposed from débris in drift, (77-78) p. 8 CC.
of Par-nip and Pack rivers, B.C., (75-76) p. 79.
of Peace River, (75-76) p. 80.
- Palæozoic and Triassic rocks of British Columbia, general note on occurrence in Queen Charlotte Islands, (78-79) p. 45 B.
of southern British Columbia, (77-78) pp. 63-105 B.
- Palæozoic system of North America, table of formations, (63-66) p. 234.
- Pale argillite series, synopsis of divisions in New Brunswick, (71-72) p. 197.
- Pale argillite series—*Cont.*
geographical distribution, (71-72) pp. 197-200.
northern part of Charlotte Co., N.B., (70-71) pp. 197-198.
in southern corner Sunbury Co., N.B., (70-71) pp. 198-199.
in Hampstead and Wiekham, N.B., (70-71) p. 199.
age proved to be Devonian, correlated with Cordaites shales, (74-75) p. 84.
of Charlotte Co., form part of Devonian, (78-79) p. 14 D.
of southern New Brunswick, referred to Devonian, (75-76) p. 367.
- Palfrey Brook, York Co., N.B., small area of Cambro-Silurian in granite area, (82-84) p. 20 G.
- Palfrey and Cheputnecticook Lakes, St. Croix River, relation of drift, character of, (82-84) p. 15 GG.
- Palladeau Islands, Lake Huron, Ont., boundary of Huronian on, (1863) p. 63.
south-western island composed of rocks of Trenton Group, (1863) p. 195.
- PALLISER, CAPT., description of central plain east of Rocky Mts., quoted, (73-74) p. 20.
- Palloptera morticina*, Scudder, description, from Tertiary beds of Quesnel, B.C., (75-76) p. 278.
- Palmer ore-bed, N.Y., description of ore, (66-69) E. p. 276, F. p. 305.
- Palmer's mine, Fenwick Tp., Ont., east of Lake Superior, (63-66) p. 131.
- Palmer's iron-mine, Jacksontown, N.B., ore-beds and amount of ore mined, (74-75) p. 99.
- Palmerston Tp., Ont., Hastings Series extending through, (70-71) p. 311.
series of mica-schists in, (70-71) p. 311.
succession of rocks on road from McLaren's dépôt, (74-75) p. 127.
the dolomite and slate group in, (74-75) p. 132.
description and analysis of white dolomite from (74-75) p. 132.
copper-pyrites containing gold in, (74-75) p. 161.
anticline of gneiss in, (76-77) p. 249.
note on mica location owned by Sheppard in (82-84) p. 14 L.
- Panache Lake, Ont., analysis of Huronian limestone from two extremes of, (1863) p. 596.
- Pancake Bay, Lake Superior, rocks of, (76-77) p. 213.
- Pandalus Danae*, Stimpson, note on specimens from Vancouver and Queen Charlotte Islands, (78-79) p. 214 B.
- Pandalus pubescentulus*, Dana, note on specimen from Port Simpson, B.C., (78-79) p. 214 B.
- Panopæa peregrina*, D'Orbigny, remarks on, (76-77) p. 155.

- Panoramic view at terrace above Canoe River Crossing, B.C., description of, (71-72) p. 40.
- Panoramic view of Shickshock range, Notre Dame Mountains, Que., (82-84) to accompany Part F.
- Pantage Lake, near Blackwater River, B.C., highest point on trail south of, (75-76) p. 34.
- Papineau Lake, Que., Grenville limestone-band at, (1863) p. 836.
- Papineau road, Montreal, mass of intercalated trap on, (1863) p. 144.
- Papineauville, Que., the Grenville limestone-band at, (1863) p. 837.
- Papoose Islands, Georgian Bay, probably of rock of the Trenton Group, (1863) p. 193.
- Paquette's Rapids, Ottawa River, note on Trenton fossils at, (1863) p. 176.
analysis of brown limestone, (1863) p. 621.
- Paradoxides slates, of Red Sand-rock of Vermont, near Swanton Falls, (1863) p. 282.
of Strait of Belle Isle and Newfoundland, similar to those of Vermont, (1863) p. 879.
- Paramorphism in uraltite not recognized, (77-78) p. 23 G.
- Paresseux Rapids, Kaministiquia River, Ont., lead-ore in vein at, (66-69) E. p. 358, F. p. 397.
- Pargasite from Pargas, Finland, analysis of, (73-74) p. 202.
note on occurrence of on Madawaska River, Ont., analysis of, (1863) p. 466.
- Paris, Ont., record of oil-well, at (63-66) p. 251.
descriptions of gypsum deposits in vicinity of, (1863) p. 350.
analysis of dolomite from, (1863) p. 625.
note on gypsum deposits near, (1863) p. 763.
thickness of clay at, (1863) p. 903.
- Paris Industrial Exhibition of 1867, prizes awarded Canadian exhibit, (68-69) p. 3 Summ.
series of rocks exhibited, presented to Jardin des Plantes, (68-69) p. 4 Summ.
- Paris Exhibition of 1878, shipments of specimens for, awards made to Survey exhibit, (77-78) p. 2.
disposition of exhibit, (77-78) p. 2.
- Parker Point, Roderick Island, B.C., bedded diorites, (74-75) p. 76.
- Parker's location, North Burgess Tp., Ont., examination of, (71-72) p. 126.
- Park's mills, Sutherland River, Picton, N.S., green slates of, (66-69) E. p. 6, F. p. 6.
- Park's mine, Sebastopol Tp., Ont., note on apatite deposit at, (82-84) p. 6 L.
- Parle-pas Rapid, Peace River, view of, (75-76) facing p. 86.
- Parophite from St. Nicholas, Que., general note on mode of occurrence, (1863) p. 484.
- Parry Island, Georgian Bay, rocks of, (76-77) pp. 198, 199, 200, 205.
- Parry Passage, Q.C.Is., B.C., account of Capt. Douglas's visit to, in 1789, (78-79) pp. 10-11 B.
description of, (78-79) pp. 39-40 B.
rocks of shores, (78-79) p. 84 B.
the villages of, (78-79) pp. 162-163 B.
- Parry Sound band, crystalline-limestone, Georgian Bay, (76-77) p. 203.
- Parry Sound, Georgian Bay, Ont., geology of, (76-77) pp. 195-203.
- Parry Sound district, Ont., crystalline-limestones of, (76-77) pp. 202-207.
for general geology see *Part I.*, p. 14.
- Parry Sound, Ont., mottled diorite, gneiss and schist, (76-77) pp. 199, 204.
- Parsnip River, B.C., A. R. C. Selwyn's journal of journey on, (75-76) pp. 38-40.
view of, from 14 miles below Nation River, (75-76) facing p. 65.
drift lignite in bed of, (75-76) p. 65.
Lignite Tertiary rocks of, blocks of lignite in bed, (75-76) p. 71.
Palaeozoic rocks of, black slate at mouth of Finlay River, (75-76) p. 80.
illustration showing junction with Nation River, (75-76) facing p. 71.
notes on botany of, summer frosts, floods in valley, (75-76) p. 143.
gold on, below Nation River, B.C., (76-77) p. 141.
lignite on, (76-77) p. 145.
elevation at mouth of Misinchinca River, note on exploration of upper part by Sir A. Mackenzie, (79-80) p. 34 B.
- Parson's Point, Sooke, B.C., rocks at, (76-77) p. 190.
- Partridge Bay, Georgian Bay, Ont., geology of, (76-77) p. 197.
- Partridge Hill, Nelson River, height of, (77-78) p. 18 CC.
- Partridge Inlet, Georgian Bay, Ont., rocks of, (76-77) p. 205.
- Partridge Island, St John Harbour, N.B., rocks of, (70-71) p. 61.
- Partridge Lake, Ont., gold-bearing quartz from, assay of, (76-77) p. 480.
- Partridge Portage, Pigeon River, Lake Superior, trap dyke, Upper Copper-bearing Series on, (72-73) p. 92.
- Pas Mission, Sask., description of country at, (73-74) p. 44.
- Pas Rapid, Clearwater River, Atha., bituminous limestone at, (82-84) p. 26 CC.
- Pasayten River, B.C., note descriptive of southern branch Similkameen River, (77-78) p. 51 B.
- Pascabec River, Kings Co., N.B., Huronian rocks on upper part of, (70-71) p. 81.
- Pasceolus Halli*, Billings, wood-cut of, (1863) p. 309.

- Paspébiac, Que., Bay of Chaleurs, reference to shell-marl near, (80-82) p. 20 D.
- Passage beds between lower shales and agglomerates, Divs. C and D, Cretaceous, of Skidegate Inlet, B.C., (78-79) p. 67 B.
- Passage beds at base of Laramie, note on characters of, (80-82) p. 5 B.
- Passamaquoddy Bay, N.B., Mascarene Series on north shore of, (70-71) pp. 147-151.
 fault crossing on south side of, (70-71) p. 180.
 copper-ore localities around, (70-71) p. 225.
 tidal erosion in, (77-78) p. 18 EE.
 list of marine invertebrates in Leda clay of, (77-78) pp. 29-30 EE.
 continued subsidence of coast at, (77-78) p. 34 EE.
- Passenger pigeon, reported on Nelson River, (78-79) p. 70 C.
- Pasturage of Little Bow River plains, Alta., (82-84) p. 28 C.
- Patapedia River, Que., Gaspé Series on, (1863) p. 417.
- Patawegia Brook, York River, Gaspé, fossiliferous beds in limestones, fossils found, (1863) p. 885.
- Path-end Brook, Victoria Co., N.S., chloritic syenite, iron-pyrites and hematite, (82-84) p. 15 H.
- Patrick Munroe's Brook, North-east Margaree River, N.S., gypsum deposit on, (82-84) p. 51 H.
- Patrick's mine, Pictou Co., N.S., analysis of oil-coal from, (66-69) E. p. 394, F. p. 437.
- Patrick's Mountain, Narrow Ridge Lake, near Lake Mistassini, Que., height of, (70-71) p. 301.
- Patterson's Brook, Queens Co., N.B., pre-Carboniferous rocks, the dark argillite series, (70-71) p. 194.
 upper series of pre-Carboniferous, pale argillite series, (70-71) p. 199.
 Devonian plants in rocks of, (75-76) p. 368.
- Patterson Creek, B.C., altitude, gold-workings on, (76-77) p. 139.
- Patton Tp., Ont., copper-ores noted on line near Thompson Tp., (1863) p. 843.
- PAULI, MR., observations of on graphite, (63-66) p. 222.
- Paulite, reported from Paul's Island, Nain, Labrador, (82-84) p. 12 DD.
- Paul Lake, Sturgeon River, Ont., gneiss rocks of, (75-76) p. 298.
- Pavements, asphalt for, proportions used in manufacture of, (1863) p. 790.
- Pavillion Mountain, south-west of Clinton, B.C., character of country, (77-78) p. 12 B.
- Pavillion Mountain farm, B.C., yield of grain, (71-72) p. 68.
- Pay-chimneys in auriferous quartz-veins, (70-71) p. 258.
- Peace Point, Peace River, Atha., character of river valley below, (75-76) p. 91.
- Peace River, Atha., analysis of coal from cañon, (75-76) p. 6.
 survey made of upper part by A. R. C. Selwyn and A. Webster, method used, (75-76) p. 29.
 description of, from McLeod Lake to junction with Smoky River, (75-76) pp. 31-80.
 A. R. C. Selwyn's journal to Smoky River and return, (75-76) pp. 41-64.
 from St. John to Dunvegan, description of valley, engineering difficulties, (75-76) pp. 55-56.
 from Dunvegan to Smoky River, (75-76) pp. 56-60.
 illustration showing river below Hudson's Hope and St. John, (75-76) facing p. 60.
 the Mesozoic rocks of, (75-76) pp. 72-74.
 illustration showing view up, near Otter-tail River, (75-76) facing p. 75.
 Monotis-bearing beds at mouth of Clearwater River, (75-76) p. 75.
 sketch showing folded strata above Otter-tail River, (75-76) p. 77.
 illustration showing view across, looking up valley of Clearwater River, (75-76) p. 80.
 Monotis shales and limestones opposite Clearwater River, (75-76) p. 80.
 Palæozoic rocks exposed on, (75-76) p. 80.
 the economic minerals of, (75-76) pp. 81-83.
 condition and origin of gold on, (75-76) pp. 81-82.
 note on nodules of clay-ironstone, (75-76) p. 82.
 fall in river from Fort McLeod to cañon, (75-76) p. 85.
 fall from cañon to forks, (75-76) p. 85.
 illustration showing Parle Pas Rapid, (75-76) facing p. 86.
 from Smoky River to Battle River, description of, (75-76) p. 87.
 geological and topographical notes by John Macoun, (75-76) pp. 87-90.
 character of valley below Vermilion, (75-76) p. 88.
 limestone beds at the "chuttes," (75-76) p. 88-89.
 fossiliferous rocks at mouth of Red River, (75-76) p. 89.
 notes on fossils collected by J. Macoun from Rapide Bouille, (75-76) p. 104.
 botanical notes on valley of, from Finlay Branch to Lake Athabasca, J. Macoun's journal, (75-76) pp. 144-167.
 dates of forming and breaking of ice in, (75-76) p. 156.
 vegetation of, relation to flora of central Ontario, (75-76) pp. 166-167.
 and Athabasca River, catalogue of plants collected on, (75-76) pp. 186-232.
 gold on, east of mountains, origin of, (76-77) p. 141.
 coal on, (76-77) p. 145.
 analysis of coal from Rocky Mountain Cañon in table, (76-77) facing p. 470.

Peace River, Atha.—*Cont.*

- analysis of limestones from, (76-77) p. 48.
 Indian names for, (79-80) p. 49 B.
 above Dunvegan, illustration showing view up, (79-80) facing p. 50 B.
 situation of Sir Alexander Mackenzie's old post, (79-80) p. 57 B.
 from Dunvegan to Pine River, report by H. J. Cambie on valley of, (79-80) pp. 61-63 B.
 area and physical features of basin of, (79-80) p. 66 B.
 opening and closing of navigation on, (79-80) p. 71 B.
 the Lower Shales, Cretaceous, exposures of, thickness and fossils, (79-80) p. 116 B.
 the Lower Sandstones and Shales of Cretaceous of, (79-80) pp. 118-120 B.
 quality of coal-seams, analysis of coal from Rocky Mountain Cañon, (79-80) p. 119 B.
 note on fossil plants from, (79-80) pp. 120-122 B.
 coal-bearing rocks, horizons, probable value of, comparison with Saskatchewan coal, (79-80) pp. 134-136 B.
 character of drift-deposits of plateau, (79-80) p. 140 B.
 list of plants collected by G. M. Dawson in 1879, (79-80) pp. 143-146 B.
 meteorological observations during summer of 1879, (79-80) pp. 151-156 B.
 latitudes determined by A. Webster, 1875, (79-80) p. 165 B.
 map of, scale 8 m. = 1 in., sheets II. and III., with section, (79-80) accompanying Part B.
 to Lesser Slave Lake, description of country along road, (79-80) pp. 88-89 B.
- Peace River country, report on by G. M. Dawson, (79-80) pp. 1-165 B.
 general physical and climatic features of, (79-80) pp. 66-79 B.
 east of Smoky River, character of, (79-80) p. 67 B.
 total area suitable for agriculture, (79-80) p. 68 B.
 note on length of winter and closing and opening of rivers, (79-80) pp. 70-71 B.
 comparison between valley and plateau land, (79-80) p. 72 B.
 frosts in, comparison with Fort Saskatchewan and Edmonton district, (79-80) pp. 73-74 B.
 immunity from locusts, (79-80) p. 79 B.
 the subdivisions of Cretaceous of, (79-80) p. 115 B.
 general relations of the rocks of, (79-80) pp. 130-134 B.
 latitude observations taken in 1879 by G. M. Dawson, (79-80) p. 159 B.
- Peace River expedition, journal of A. R. C. Selwyn from Quesnel to Smoky River and return, (75-76) pp. 31-69.
 notes by J. F. Whiteaves on some of the fossils collected, (75-76) pp. 96-106.
 list of coleoptera collected on, (75-76) pp. 107-109.

Peace River expedition—*Cont.*

- report of botanist, list of plants, (75-76) pp. 110-232.
- Peace River Pass, Rocky Mts., summary of former explorations, (75-76) p. 30.
 first pack-train through, (75-76) p. 63.
 compared with Leather or Yellow Head Pass as route for railway, (75-76) p. 68.
 general description of, (75-76) p. 145.
 sudden change in climate from west to east, (75-76) p. 149.
- Pearl-spar, general note on occurrence of, examples at Bruce mines, Ont., (1863) p. 456.
- Pearlstone, rock resembling, from Quesnel, B.C., examined by T. S. Hunt, (71-72) p. 67.
- Peat, formation of peat bogs, (1863) p. 771.
 density of, amount of water in, processes for cutting, etc., (1863) pp. 772-774.
 processes for compressing, description of, (1863) pp. 773-774.
 charcoal from, note on manufacture of in Europe, (1863) p. 775.
 distillation of for oil, notes on, Reece's process, Paul's experiments, (1863) pp. 776-780.
 oils from, notes on results of experiments, (1863) p. 779.
 localities of, in Ontario and Quebec, (1863) pp. 780-784.
 statements in former reports as to working of, (63-66) p. 284.
 pulping, cutting, draining and stacking, (63-66) pp. 285-288.
 difficulty in working formerly found, (63-66) p. 285.
 Mr. Hodge's invention for working, (63-66) p. 285.
 Hodge's machine described, canal for, (63-66) p. 285.
 effect of frost on, manufactured and in bog, (63-66) p. 288.
 yield and cost of working Hodge's machine, (63-66) p. 289.
 for locomotives, experiments and results, (63-66) p. 289.
 theoretic heating power of, (63-66) p. 290.
 possible yield of from bogs, (63-66) p. 290.
 for iron-working experiments in Montreal, (63-66) p. 291.
 statistics for Quebec, for 1869-71, (71-72) p. 148.
 note on use of in smelting iron, (73-74) p. 257.
- Peat deposits, notes on the following localities:—
 of northern Cape Breton Island, N.S., (82-84) p. 90 H.
 from inter-glacial deposits of Driftwood Bend, Belly River, Alta., analysis of, (82-84) p. 144 C.
 of Kennebecasis River, N.B., (77-78) p. 33 EE.
 localities on Little Churchill and Great Churchill rivers and route from Split Lake, (78-79) p. 20 C.

Peat deposits—*Cont.*

- in vicinity of Lawlor Lake, N.B., (77-78) p. 35 EE.
- around the margin of Methy Lake, Atha., (75-76) p. 175.
- in New Brunswick, occurrence of, localities cited, (82-84) p. 47 GG.
- north-eastern part, (79-80) p. 43 D.
- of northern part, economic value of, (79-80) p. 47 D.
- of southern part, (70-71) pp. 16, 230.
- in southern part, Mill Cove, Frys Island and St. John Harbour, (77-78) pp. 32-33 EE.
- of vicinity of Oxford and Knee Lakes, Keewatin, (78-79) p. 33 C.
- in Prince Edward Island, economic value of, (82-84) p. 19 E.
- on north-west arm, River Inhabitants, Richmond Co., N.S., (79-80) p. 114 F.
- in Rivière du Loup, L'Islet du Portage and Rivière Ouelle, Que., (66-69) E. p. 141, F. p. 157.
- analysis of, from St. Dominique, Que., (1863) p. 642.
- analysis of ashes of, from St. Dominique, Que., (1863) p. 642.
- occurrence of beds on Swan River, Man., (74-75) p. 69.
- on head-waters of Tabusintac River, N.B., (79-80) p. 6 D.
- Pecks Creek, N.B., section of Lower Carboniferous rocks, (76-77) p. 376.
- Pecopteris*, Sp., note on fossil specimens from Hornby Island, B.C., (72-73) p. 70.
- Pecten Islandicus*, Muller, wood-cut of left valve, (1863) p. 963.
- Peebles Point, Strait of Canso, N.S., Carboniferous rocks of, (79-80) p. 88 F.
- section of rocks south from, (79-80) p. 89 F.
- Peel Co., Ont.:—
- for general geology see *Part I.*, p. 14.
- Peel Tp., Ont., evidence from boulders of presence of Onondaga Formation, (1863) p. 351.
- superficial deposits of, hard-pan, (1863) p. 900.
- Peel Tp., Carleton Co., N.B., limestone from, used in furnaces as flux, (66-69) E. p. 208, F. p. 231.
- PEERS, T. D., work by as assistant to R. W. Ellis, 1882, (80-82) p. 20.
- Pegmatite explored for copper at Pointe aux Mines, Lake Superior, (63-66) p. 122.
- Pegmatite veins in Madoc Tp., Ont., (63-66) p. 93.
- Pelecypoda, see *Lamellibranchiata*.
- Pelican Falls, English River, Ont., rocks at edge of Huronian belt, (72-73) p. 102.
- glacial striae on, (74-75) p. 44.
- Pelican Lake, English River, Ont., quartz vein, Huronian schists, (72-73) pp. 101-102.
- Pelican Lake, north of Cumberland House, Sask., description of, (79-80) p. 13 C.
- Pelican River, Atha., rocks near mouth of, on Athabasca River, (82-84) pp. 8-9 CC.
- Pellier Point, Bras d'Or Lake, Inverness Co., N.S., composed of gravel, (79-80) p. 102 F.
- Peltoma, N.B., ochreous earth at, used as mineral paint, (72-73) p. 227.
- Peltoma Brook, N.B., red shales and conglomerate, character of pebbles, (72-73) p. 186.
- Pembina Island, Kenogami River, Ont., description of, (70-71) p. 339.
- Pembina Lake, near Sturgeon Lake, Ont., rocks of, quartz vein, (72-73) p. 97.
- Pembina River, width of at confluence with Athabasca River, (79-80) p. 82 B.
- Pembroke, Ont., Chazy sandstone used in building, note on, (1863) p. 125.
- analysis of limestone from, (76-77) p. 486.
- Pembroke, Maine, note on rocks of Mascarene Series at, (70-71) p. 157.
- Upper Silurian of Pembroke River, fossils of, (70-71) p. 162.
- Pembroke Glen, N.S., amygdaloidal trap, (82-84) p. 38 H.
- Pembroke Tp., Ont., sandstone of Chazy Formation exposed in, usefulness as building-stone, (1863) p. 814.
- Pemscashie Lake, St. Maurice River, Que., hornblende rocks, (70-71) p. 290.
- Penalties for offences among Haida Indians, (78-79) p. 120 B.
- Pend D'Oreille River, Idaho, general description of, (82-84) p. 6 B.
- auriferous gravels and placer-mining in 1861, (82-84) p. 37 B.
- Pender Channel, B.C., examination of, (74-75) p. 79.
- Penetanguishene, Ont., ridge or old beach at, (1863) p. 911.
- rocks of Roberts Bay, (76-77) p. 207.
- Penetanguishene Peninsula, Ont., covered by drift, (1863) p. 193.
- Peninsula of western Ontario, rivers of, heights on G. T.R., general description of surface of, (1863) pp. 15-16.
- Peninsula, Cumshewa Inlet, B.C., section of rocks at, with diagram, (78-79) p. 79 B.
- Peninsula Bay, Lake Superior, rocks of referred to, (1863) p. 48.
- Penneygutway, branch of Hayes River, Keewatin, character of Hayes River near, (77-78) p. 8 CC.
- Pennfield, Charlotte Co., N.B., Coastal rocks of the Huronian, (70-71) p. 85.
- Pennfield Ridge, Charlotte Co., N.B., origin and composition of, (70-71) p. 91.
- Coastal rocks of, (76-77) p. 335.
- Pennfield Parish, N.B., gravel ridge in, (77-78) p. 13 EE.
- Pennock's lot, Buckingham, Que., openings for plumbago, (73-74) p. 142.

- Pennsylvania, table of rock formations compared with Great Britain and Canada, (1863) p. 932.
 note on comparative table of rock formations of, (1863) p. 935.
 wells at Oil Creek, in Portage and Chemung Formations, (63-66) p. 240.
 undulations in rocks of oil-region, (63-66) p. 257.
- PENNY, PROF. F., analysis of stellarite and oil-shale from Acadia Colliery, N.S., (66-69) E. p. 378, F. p. 419.
 analysis of ilmenite from Bay St. Paul, Que., (73-74) p. 227.
- Penobsquis, N.B., bituminous shales near, reported to contain albertite, (78-79) p. 17 D.
- Pentamerus*, in Niagara rocks, of Cockburn, Drummond and Manitoulin Islands, (66-69) E. p. 115, F. p. 129.
- Pentamerus aratus*, Conrad, wood-cuts of, (1863) p. 370.
- Pentamerus Barrandi*, Billings, wood-cuts of, (1863) p. 316.
- Pentamerus galeatus*, Dal., wood-cut of, (1863) p. 957.
- Pentamerus oblongus*, Somerley, wood-cut of, (1863) p. 316.
- Pentamerus occidentalis*, Hall, wood-cuts of, (1863) p. 337.
- Pentamerus Verneuilli*, Hall, wood-cut of, (1863) p. 957.
- Pentamerus limestone band of Lower Helderberg Group, characters of in New York, (1863) p. 355.
- Pentecost River, Que., labradorite rocks of, (66-69) E. p. 306, F. p. 339.
 to Bay of Seven Islands, description of coast, (66-69) E. p. 311, F. p. 344.
- Penthetria Similkameena*, Scudder, description of from Tertiary rocks of Similkameen River, B.C., (77-78) pp. 176-177 B.
- Pepper well, Bothwell Co., Ont., record of, (63-66) p. 247.
- Percé, Gaspé, Que., height of Split Rock at, (1863) p. 438.
 the Devonian rocks of vicinity and on slopes of Percé Mountain, (80-82) p. 4 DD.
 exposures of Lower Devonian rocks near, (80-82) pp. 8-9 DD.
- Percé anticline, Gaspé, probable course of, (1863) p. 885.
- Percé Mountains, Gaspé, elevation, conglomerate band, (1863) p. 438.
 sandstones and conglomerates, reference to Logan's description, (80-82) p. 2 DD.
- Percé reef, Gaspé, Que., conglomerate rock of, (1863) p. 438.
- Percé Rock, Gaspé, Que., fossils from Lower Devonian at, list of, (80-82) pp. 8-9 DD.
- Percé Tp., Gaspé, Que., description of trap dyke, (80-82) p. 32 DD.
- Perch Lake, near Lake Nikouban, Que., area of good timber, (70-71) p. 301.
- Perched boulders, on Manitoulin Island, Ont. (63-66) p. 178.
 on hills west of Lake Superior, (72-73) p. 111.
- PÉREZ, JUAN, note on voyage north of Vancouver Island, (78-79) p. 8 B.
- Perforation of nose, by Haida Indians, note on, (78-79) p. 109 B.
- Peribonka River, Lake St. John, Que., note on anorthosites of, (1863) p. 46.
- Peridot, *see* Olivine.
- Peridotite from Montarville, Que., analysis of, (1863) p. 666.
- Perisphinctes anceps*, Reinecke, note on specimen from Itasyouco River, B.C., (76-77) p. 157.
- Peristerite from Bathurst Tp., Ont., analysis of, (1863) p. 477.
 note on as an ornamental stone, (1863) p. 833.
- Perkins Brook, Douglas valley, N.B., lower beds of Upper pre-Carboniferous, pale argillite series, (70-71) p. 198.
- Perkin's mill, Templeton, Que., quartzite beds at, dolerite dyke cutting quartzite, (77-78) p. 3 G.
- Perlite, concretionary, on François Lake, B.C., (76-77) p. 86.
- Permian fossils (?) from Stuart Lake, B.C., notes on, (75-76) p. 97.
- Permo-Carboniferous rocks of Cape Tormentine, N.B., note on area and characters of, (80-82) p. 6 D.
 of Prince Edward Island, age of, compared with Nova Scotia and New Brunswick rocks, (82-84) pp. 11-19 E.
- PERRIGO, J., sketch of hills at Bridgewater, Ont., (72-73) facing p. 152.
- Perroquet Island, Straits of Belle Isle, Potsdam sandstone occurring on, (1863) p. 97.
- PERRY, A. B., work done by as librarian, 1881, (80-82) p. 11.
- Perry Creek, B.C., gold working on, (76-77) p. 140.
- Perry sandstone group, details of occurrence in New Brunswick, (70-71) pp. 201-204.
 list of fossils, from Perry, Maine, (79-81) p. 202.
 relation to Lower Carboniferous, (70-71) p. 200.
- Perth, Ont., description of outcrops of Potsdam sandstone in vicinity of, (1863) p. 93.
 note on tracks on sandstone, discovered by Dr. Wilson, wood-cut showing *Climacites Wilsoni*, (1863) p. 107.
 height of Potsdam track-beds above Lake St. Peter, (1863) p. 109.
 scapolite in boulder, analysis of, (1863) p. 474.
 spodumene found in granite boulders near, (1863) p. 481.

- Perth Co., Ont.:—
for general geology see Part I., p. 14.
- Perth Parish, N.B., kame on left bank of St. John River, description of, (82-84) p. 21 GG.
 sections of terraces in valley of St. John River, (82-84) p. 32 GG.
- Perthite from Burgess Tp., Ont., description and analysis of, (1863) p. 474.
 as an ornamental stone, note on, (1863) p. 833.
- PERCY, J., quoted on advantages of Catalan process in iron-making, (66-69) E. p. 274, F. p. 303.
 analysis of coal from outcrop at Springhill, N.S., (66-69) E. p. 445, F. p. 498.
 extract from letter on smelting of titaniferous iron-ores, (73-74) d. 251.
- Peseyten River, South Similkameen River, B.C., rocks of vicinity, height of mouth of, (82-84) p. 14 B.
- Petalite, reported found in boulder in Canada, Bolton, Mass., the only known locality, (1863) p. 481.
- Petawawa River, Ont., syenite of referred to (1863) p. 46.
 deposit of infusorial earth on, (1863) p. 930.
 referred to, (76-77) p. 208.
 syenite on, (76-77) p. 277.
 sand plains on, (76-77) p. 277.
- Peterborough Co., Ont., Lower Silurian, note on limestones of northern part, (66-69) E. p. 159, F. p. 177.
 work in by H. G. Vennor, (68-69) p. 5 Summ.
for general geology see Part I., p. 14.
- Peterboro' Lead Co., statistics for 1869, (71-72) p. 147.
- Peter Stewart Brook, North-east Margaree River, N.S., felsites of, (82-84) p. 24 H.
- Peter Totten lot, Londonderry, N.S., assay of iron-ore from, (72-73) p. 22.
 analysis of hematite from, (73-74) p. 224.
- Peters Brook, Baddeck River, N.S., marls and sandstones of, (82-84) p. 50 H.
- Peters Mountain, near Loch Lomond, N.S., limestone of, same as that of River Tom, (79-80) p. 62 F.
- Peter's River, N.B., section of diabasic rocks north of, (79-80) p. 40 D.
 general direction of glacial striæ, (79-80) p. 43 D.
- Petersburgh, Ont., elevation of G. T. Ry. at, (1863) p. 15.
- Peterson Lake, near Tatla Lake, B.C., general description of, (75-76) p. 239..
- Petersville, Queens Co., N.B., syenites of, (70-71) p. 33.
 area of Huronian rocks at, (70-71) p. 65.
 Lower Carboniferous rocks in valley of Nerepis River, north of, (72-73) p. 188.
 section of Upper Silurian on Queens Brook, (75-76) pp. 355-357.
 Devonian rocks of, referred to, (75-76) p. 368.
- PETET, J., number of Devonian fossils collected by in Ontario, (74-75) p. 11.
- Petitcodiac River, N.B., section of Lower Carboniferous rocks on, (76-77) p. 376.
- Petitdegrat Island, N.S., Devonian rocks of, (79-80) p. 38 F.
- Petite Anse, Richmond Co., N.S., felsites and argillites of, (79-80) p. 5 F.
 Devonian rocks of, (79-80) p. 38 F.
- Petite Anse Island, Louisiana, U.S.A., rock-salt at, (76-77) p. 237.
- Pétite Côte, Vaudreuil, Que., analysis of limonite, (1863) p. 511.
 analysis of bog-ore, (73-74) p. 237.
- Petite Décharge, Saguenay River, Que., labradorite area near, (82-84) p. 8 D.
 limestone island, area of limestone exposed, (82-84) pp. 13-14 D.
- Petite Nation Tp., Que., height of Potsdam beds above Lake St. Peter, (1863) p. 109.
 plumbago found in, (1863) p. 794.
 Grenville band of limestone, distribution of in, (1863) p. 837.
 great dolerite dykes in, (1863) p. 840.
 to St. Armand, Que., coloured section, (1863) Atlas.
 distribution of the Grenville band of limestone in, (63-66) p. 13.
 agricultural land on North River, (70-71) p. 7.
 run of limestones into, (76-77) p. 291.
- Petite Nation River, Ont., dislocation affecting Palæozoic rocks south of, (1863) p. 94.
 the Calciferous Formation, exposures of on, (1863) p. 118.
- Petite Nation syncline, note on, (76-77) p. 300.
- Petite Roche Station, N.B., Silurian marble, (79-80) p. 19 D.
 note on marble of vicinity, (79-80) p. 47 D.
- Petition for Geological Surveys in Pictou and Victoria Cos., N.S., referred to, (73-74) p. 12.
- PETITOT, REV. E., number of fossils presented by, from McKenzie River, list of by J. W. Dawson, (74-75) p. 11.
- Petits Ecrits, Lake Superior, seven terraces above lake, heights of, (1863) p. 913.
- Petraia calicula*, Hall, wood-cut of, (1863) p. 308.
- Petraia Canadensis*, Billings, wood-cut of, (1863) p. 208.
- Petraia corniculatum*, Hall, wood-cut of, (1863) p. 156.
- Petrifying spring, Westmeath, Ont., character of mineral-water, (1863) p. 547.
- Petrolia, Ont., gas causing flow in well at, (63-66) p. 259.
 mineral-waters from wells near, (63-66) p. 276.
- Petroleum, note on presence of in rocks of Ontario and Quebec, (1863) pp. 521-524.
 note on distribution of and economic value, the Gaspé petroleum, (1863) pp. 785-792.

Petroleum—*Cont.*

- refining of, general method, (1863) p. 790.
- geology of, by T. Sterry Hunt, (63-66) pp. 233-263.
- reference to former reports on, (63-66) p. 233.
- not found in black shales of Hamilton Formation, (63-66) p. 254.
- examples of in Corniferous limestone, (63-66) p. 254.
- distribution in strata, (63-66) p. 255.
- different specific gravities from different districts, (63-66) p. 260.
- theoretical and practical heating power, (63-66) p. 290.
- reference to oil-bearing rocks of the central part of Canada, (73-74) p. 21.
- as fuel in evaporating brine, (74-75) pp. 283-284.
- in Albert shales, N.B., (76-77) p. 357.
- statistics for Ontario, 1869-71, (71-72) p. 147.
- from Silurian of Kentucky and Illinois, (63-66) p. 253.

Petroleum, localities for:—

- on Abitibi River, Ont., occurrence of bituminous limestone, (77-78) p. 24 C.
- in Albert and Westmoreland Cos., N.B., springs of, (76-77) p. 393.
- of Athabasca District, discussion on utilization of tar deposits, supply in rocks of, (82-84) pp. 32-35 CC.
- note on transportation of, (82-84) p. 34 CC.
- of Bagot Tp., Saguenay River, in Trenton limestone, (82-84) p. 15 D.
- in Bertie Township, Ont., in cavities in Corniferous Formation, (1863) p. 368.
- in coralline beds, (1863) p. 522.
- in northern Cape Breton, N.S., borings at Lake Ainslie and on Baddeck River, (82-84) p. 90 H.
- at Collingwood, Ont., in Utica shale, extraction of, (1863) p. 212.
- at Dickson's mills, Pakenham Tp., Ont., in fossils of Trenton rocks, (1863) p. 175.
- in Enniskillen Tp., Ont., amount shipped up to 1863, (1863) p. 786.
- in Gaspé, Que., notes on with additional localities, (1863) pp. 788-792.
- report on, referred to, (63-66) p. 234.
- in limestones of, (63-66) p. 260.
- note on borings for, (80-82) p. 14 DD.
- vicinity of Gaspé Bay, Que., springs of, (1863) p. 403.
- in Hillsboro', Albert Co., N.B., (76-77) p. 383.
- in Inverness Co., N.S., explorations of H. Fletcher on Lake Ainslie, (80-82) p. 6.
- in Manitoulin Island, Ont., in Utica shales on island north of Maple Point, (1863) p. 217.
- springs of, (63-66) p. 179.
- yield of wells, (63-66) p. 253.
- in New Brunswick, south-eastern part, explorations for, (76-77) p. 394.
- in Ontario, borings in black shale, (63-66) p. 244.
- Petitcodiac River, N.B., springs near, (76-77) p. 368.

Petroleum, localities for—*Cont.*

- in St. Anne Cambro-Silurian basin, N.S., bituminous limestones, (82-84) p. 12 D.
- at Tar Point, Gaspé, Que., in greenstone dyke, (1863) pp. 396, 402, and (80-82) p. 32 DD.
- near Three Rivers, Que., test by boring, gas spring, (82-84) p. 13.
- Petroleum-bearing sandstone, highest exposure of on Athabasca River, Drowned Rapid, description of beds, (82-84) pp. 14-15 CC.
- descriptions of exposures, (82-84) pp. 14-26 CC
- see also Tar-sands.
- Petroleum wells, probable permanence or exhaustion of supply of, (1863) p. 788.
- in Pennsylvania, (63-66) p. 240.
- in Virginia and Kentucky, (63-66) p. 240.
- in Kentucky, flowing from Corniferous limestone, (63-66) p. 241.
- sections of lower limestones in western Ontario given in, (63-66) p. 246.
- situated along anticlines, (63-66) p. 256.
- Petrosilex, analysis of from Orford and St. Henry, Que., (1863) p. 599.
- from Madoc, Ont., note on, (63-66) p. 93.
- of pre-Silurian of Kings and St. John Cos., N.B., (77-78) p. 3 DD.
- Pette's Cove, Grand Manan Island, rocks of, (70-71) pp. 102-103.
- Petticodiac, N.B., vein of managanese-ore at, (78-79) p. 24 D.
- Pewabic lode, Michigan, description of, (63-66) p. 152.
- copper in amygdules, (63-66) p. 153.
- minerals filling cavities in, (63-66) p. 153.
- green-earth accompanying copper, analysis of, (63-66) p. 153.
- continuation south of Portage Lake, Mich., character of, (63-66) p. 154.
- methods of mining at, (63-66) p. 162.
- Pewabic mine, Mich., cupriferous bed, (63-66) p. 153.
- description of lower members of section, (63-66) pp. 155-158.
- general strike of beds, (63-66) p. 155.
- rock of Mesnard vein, (63-66) p. 155.
- section in cross-cut, (63-66) p. 155.
- fluckan or felsite-tuff, (63-66) p. 156.
- trap below Mesnard vein, composition of, (63-66) p. 156.
- copper-bearing conglomerate, (63-66) p. 157.
- sandstone beneath conglomerate, (63-66) p. 157.
- lowest trap, composition of, (63-66) p. 158.
- Phacops callicephalus*, Hall, wood-cut of, (1863) p. 187.
- Pheasant Hills, Qu'Appelle River, Assa., character of country surrounding, (73-74) p. 26.
- Phelan seam, at Bridgeport mine, N.S., note on, (72-73) p. 252.
- comparison of sections with that at Bridgeport mine, (77-75) p. 221.

Phelan seam—*Cont.*

- in Caledonia and Reserve mines, N.S., description and analysis of coal, (72-73) p. 290.
- in Caledonia mines, N.S., dip, thickness and quality, (72-73) p. 263.
- at Clyde mine, N.S., description and analysis of coal, (72-73) p. 290.
- at Glace Bay, N.S., section of, (74-75) p. 214.
- in Glace Bay basin, N.S., thickness at various mines, (74-75) p. 217.
- section on north shore, near Indian Bay, N.S., (74-75) p. 219.
- at Reserve mine, N.S., analysis of coal, (72-73) p. 266.
- Philadelphia Exhibition, 1876, grant to Survey for, work by Survey officers, (75-76) pp. 1-3.
- expenditure on, (76-77) p. 1.
- work at, (76-77) p. 1.
- collection of specimens for by H. G. Vennor, (76-77) p. 244.
- Phillipsastrea Verneuili*, Edwards and Haime, wood-cut of, (1863) p. 365.
- Phillips Brook, Tobique River, N.B., amygdaloidal trap on, (66-69) E. p. 202, F. p. 224.
- Phillipsburgh, Que., general description of rocks at, with section, (1863) pp. 275-280.
- wood-cuts of fossils from, (1863) pp. 276-286.
- section of strata beyond dolomite bands, (1863) pp. 278-279.
- analysis of dolomite from, (1863) p. 613.
- note on building stones, limestones, (1863) p. 820.
- general description of structure in vicinity of, two faults, (1863) p. 859.
- section of Phillipsburgh Series, with addition of divisions C and D with fossils, (1863) pp. 844-846.
- development of Lévis division of Quebec Group at, (63-66) p. 31.
- map showing distribution of Potsdam, Quebec and Trenton Groups near, scale 2 m. = 1 in., (1863) Atlas.
- Phillipsburgh Series, section of near Province line, Que., (1863) pp. 278-279.
- section of additional parts C and D, with fossils of, (1863) pp. 844-846.
- distribution of divisions A, B, C and D, in vicinity of Phillipsburgh, Que., (1863) pp. 846-854.
- fossils of found in Lévis Formation, (1863) p. 860.
- later than Red Sand-rock of Vermont, inferred from Newfoundland section, (1863) p. 879.
- Philips location, North Burgess Tp., Ont., phosphate mined, (71-72) p. 128.
- Phlogopite, localities of occurrence in Ontario, with an analysis, (1863) p. 494.
- mode of occurrence in Laurentian, (63-66) p. 210.
- in apatite-bearing rocks of Ottawa Co., Que., note on with diagram of crystals, (77-78) pp. 24-26 G.

- Phoca Gröenlandica*, Muller, wood-cut of skull of, (1863) p. 965.
- record of collection of from Leda clay at Fairville, near Carleton, N.B., (77-78) p. 23 EE.
- Phoenix mine, Hastings, Ont., mechanical test for gold, (66-69) E. p. 166, F. p. 184.
- Pholerite, mode of occurrence, analysis of, (1863) p. 495.
- in crystalline rocks of Canada, (1863) p. 648.
- of Lachine, Que., description and analysis, (1863) pp. 661-662.
- Phonolite-trachyte, on inlands south of Michipicoten Island, Lake Superior, (63-66) p. 142.
- Phosphate of lime, general note on occurrence of in rocks of Ontario and Quebec, (1863) pp. 460-463.
- note on mineral species associated with, (1863) pp. 460-461.
- uses of in agriculture, deposits of in Canada, (1863) pp. 757-761.
- classification for commercial purposes, (70-71) p. 318.
- statistics for Ontario, 1869-71, (71-72) p. 147.
- summary of work in laboratory on, (72-73) p. 6.
- note on composition of, (77-78) p. 9.
- imports of into United States for 1883, (82-84) p. 21 J.
- in Bedford Tp., Ont., discovery of in, (70-71) p. 315.
- localities for in, (71-72) p. 124. and (72-73) p. 172.
- in Buckingham Tp., Que., examined by H. G. Vennor, (73-74) pp. 144-145.
- in beds below Crow Lake band of crystalline limestone, (73-74) p. 106.
- in Frontenac, Leeds and Lanark Tps., Ont., deposits worked, (71-72) pp. 123-129.
- in Loughborough Tp., Ont., discovery of, (70-71) p. 315.
- localities in, (72-73) p. 174.
- in North Burgess Tp., Ont., reference to discovery of, (70-71) p. 314.
- notes by G. Broome, (70-71) pp. 316-320.
- localities for, (71-72) p. 124.
- in North Crosby Tp., Ont., note on discovery of, (70-71) p. 315.
- in North Elmsley Tp., Ont., notes by G. Broome, (70-71) pp. 316-320.
- in Ottawa Co., Que., occurrence in limestones, (76-77) p. 284.
- in Portland Tp., Que., examined by H. G. Vennor, (73-74) pp. 144-145.
- in South Burgess Tp., Ont., reference to, (70-71) p. 314.
- notes by G. Broome, (70-71) pp. 316-320.
- in South Crosby Tp., Ont., localities for, (71-72) p. 124.
- in South Elmsley Tp., Ont., reference to, (70-71) p. 314.
- see also* Apatite.
- Phosphate deposits, of Quebec, work by H. G. Vennor in 1877-78, (77-78) p. 6.

Phosphate deposits—*Cont.*

- of North Burgess, Bedford, Storrington and Loughborough Tps., Ont., (72-73) pp. 164-174.
 of Loughborough and Bedford Tps., Ont., (73-74) pp. 107-109.
 of North Burgess Tp., Ont., (73-74) pp. 109-139.
 of Ottawa Co., Que., notes on, (73-74) pp. 139-146.
see also Apatite deposits.

Phosphate industry, general remarks on, (82-84) pp. 24-30 J.

of South Carolina, extracts from report by A. Williams, (82-84) pp. 28-29 J.

Phosphatic manures, note on solubility of, (1863) p. 760.

Phosphate mines of North Burgess, note on cessation of work at, (74-75) pp. 108-112.

Phosphatic nodules and shells in Chazy at Allumette Rapids, Ottawa River, (1863) p. 125.

in Lower Potsdam at Rivière Ouelle, Que., (66-69) E. p. 125, F. p. 140.

in Lower Silurian from East Bay, N.S., (76-77) p. 433.

and shells in rocks of Ontario and Quebec, analysis of shell of *Lingula ovalis*, (1863) p. 461.

Phosphate rocks of Bedford and Loughborough Tps., Ont., geological position of, (73-74) p. 107.

Phosphoric acid, note on presence of in mineral and natural waters of Canada, (1863) p. 560

contained in trap rocks of Black Cape, Bonaventure Co., Que., (80-82) p. 16 H.

Phosphorus, in iron-ores, effect on manufactured iron, (66-69) E. p. 250, F. p. 276.

in iron-ore of Sweden, (66-69) E. p. 250, F. p. 277.

in hematite ores of Pictou, N.S., (73-74) p. 224.

Photograph Mt., Kitimat Inlet, B.C., rocks of, height, (74-75) p. 80.

Photographic apparatus cached at Mad R., N. Thompson, B.C., (71-72) p. 47.

Photographs, of upper part of Camp R., on Albretha Lake, B.C., referred to (71-72) p. 38.

of Central Plateau, B.C., referred to, (71-72) p. 70.

of Cranberry Lake and vicinity, B.C., referred to, (71-72) p. 39.

of Garnet Creek Falls, B.C., reference to, (71-72) p. 65.

taken of Moose Lake, B.C., Yellow Head Pass, note on, (71-72) p. 42.

taken at Porte D'Enfer and Murchisons Rapids, N. Thompson River, B.C., note on, (71-72) p. 46.

taken by G. M. Dawson on Queen Charlotte Islands, number of, (78-79) p. 2 B.

taken during A. R. C. Selwyn's expedition in British Columbia, note on, 1871, (71-72) p. 19.

Photographs—*Cont.*

of valley of Selwyn River, B.C., referred to, (71-72) p. 40.

from terraces above Canoe River Crossing, B.C., referred to, (71-72) p. 40.

Phyllograptus angustifolius, Hall, wood-cut of, (1863) p. 228.

Phyllograptus typus, Hall, wood-cut of group of twelve, (1863) p. 228.

Phyllite probably same as chloritoid, (1863) p. 498.

Physical and chemical characters of coals and lignites of North-west Territories, (82-84) pp. 5-10 M.

Physical description of Queen Charlotte Islands, (78-79) pp. 14-45 B.

Physical features, and economic importance of coast region, B.C., (79-80) pp. 2-5 B.

and climate of Peace River County, (79-80) pp. 66-79 B.

Physical geography of Canada, note on mountain ranges and lake basins, (1863) pp. 1-18.

Physical peculiarities of Haida Indians, Q.C.Is., (78-79) pp. 104-105 B.

Picard Reef, near West Arichat, N.S., section of rocks at, (79-80) p. 36 F.

Picea Engelmanni, Parry, distribution and character of, in British Columbia, (79-80) p. 171 B.

Picea Menziesii, Lindl., distribution in British Columbia, (79-80) pp. 171-172 B.

Pic Island, Lake Superior, trap rocks in contact with chloritic slates in vicinity, (1863) p. 80.

purple fluor-spar found on, (1863) p. 463.

nepheline and elæolite found in boulders, (1863) p. 480.

zircon reported at, (1863) p. 499.

Pic River, Lake Superior, reference to rocks of lower part of, (1863) p. 48.

note on Huronian rocks of vicinity of, (1863) p. 63.

note on trap rocks of vicinity, probable position in series, (1863) p. 80.

flat-lying limestone reported, (66-69) E. p. 353, F. p. 391.

general description of valley of, (70-71) pp. 327-328.

general description of, (70-71) pp. 327-335.

Huronian schists of lower part of, granite hill, (70-71) p. 329.

geology of valley of, (70-71) pp. 328-333.

list of observed strike and dip of rocks on, (70-71) p. 330.

list of portages on, to Long Lake, (70-71) p. 334.

list of tributaries of, (70-71) p. 335.

list of elevations on, above L. Superior, (70-71) p. 335.

soil of valley, (70-71) p. 349.

Pickanock River, Que., syenite on, (76-77) p. 280.

- Pickereel River, L. Superior, near Michipicoten analyses of magnetic iron-ores, (78-79) p. 15 H.
- Pickitigouching River, Lake Nipigon, Ont., surveyed, (66-69) E. p. 347, F. p. 384.
clay country drained by, (66-69) E. p. 356, F. p. 394.
survey and examination of, (71-72) p. 106.
analysis of marl from, (74-75) p. 312.
- Picrolite, *see* Serpentine.
- Pictou coals, practical trials of, (66-69) E. pp. 396-438, F. pp. 439-489.
- Pictou coal-fields, N.S., part east of East River, report by Logan on, (66-69) E. pp. 4-53, F. pp. 4-59.
measurements taken for basis of map, (66-69) E. p. 5, F. p. 5.
four horizons of rocks in, (66-69) E. p. 5, F. p. 5.
Devonian conglomerates and quartzites, (66-69) E. pp. 5-7, F. pp. 5-8.
Lower Carboniferous and Millstone Grit, (66-69) E. pp. 7-13, F. pp. 8-14.
New Glasgow conglomerates, description of, (66-69) E. pp. 13-15, F. pp. 14-17.
Coal Measures of, (66-69) E. pp. 15-51, F. pp. 17-57.
great north and south faults of, (66-69) E. p. 25, F. p. 29.
thickness of Carboniferous Formation, (66-69) E. p. 52, F. p. 59.
part west of East River, report by Edward Hartley, (66-69) E. pp. 34-107, F. pp. 61-121.
acknowledgments for plans for construction of map of, (66-69) E. p. 55, F. p. 61.
acknowledgments for information on, etc., (66-69) E. p. 55, F. p. 61.
area examined by Mr. Hartley, (66-69) E. p. 57, F. p. 63.
rocks of, general divisions in, (66-69) E. p. 57, F. p. 63.
pre-Carboniferous rocks of, description, (66-69) E. pp. 57-58, F. pp. 63-64.
description of the Millstone Grit, (66-69) E. pp. 58-63, F. pp. 65-70.
New Glasgow conglomerates, description of, (66-69) E. pp. 63-66, F. pp. 70-73.
Coal Measures, description of, (66-69) E. pp. 66-85, F. pp. 73-96.
description and analyses of coals, (66-69) E. pp. 365-395, F. pp. 405-438.
analyses of coals, from west side, East River, (66-69) E. pp. 369-388, F. pp. 409-431.
from east side East River, (66-69) E. pp. 389-395, F. pp. 431-438.
from McBean's 8 ft. seam, McBean slope, (66-69) E. pp. 389-390, F. pp. 431-432.
from Geo. Mackay seam, Marsh Colliery (66-69) E. p. 390, F. p. 433.
from Lawson's slope and seam, (66-69) E. p. 391, F. p. 433.
from Foster seam, Fraser mine, (66-69) E. p. 392, F. p. 435.
from Richardson seam, (66-66) E. p. 393, F. p. 436.
- Pictou coal-fields, N.S.—*Cont.*
analysis of oil-coal from Patricks mine, (66-69) E. p. 393, F. p. 437.
from Marsh Brook, (66-69) E. pp. 394-395, F. pp. 437-438.
practical trials of coals of, production of steam, gas, etc., (66-69) E. pp. 396-438, F. pp. 438-490.
summary of work for 1868 in, thickness of coal-seams, (68-69) p. 8 *summ.*
record of mines and statistics of coal for 1869-71, (71-72) p. 149.
- Pictou Co., N.S., iron-ores and their occurrence, (66-69) E. pp. 438-447, F. pp. 490-494.
petitions for surveys, note on, (73-74) p. 12.
notes on hematites of, (73-74) pp. 215-217.
extract from G. M. Dawson's report on hematite deposits of, (73-74) p. 215-216.
note on distribution of hematite in, (73-74) p. 217.
analysis of hematite from Webster's area, No. 101, (73-74) p. 223.
Hudson's area, No. 45, analysis of hematite from, (73-74) p. 223.
assay of hematite from area No. 108, (73-74) p. 224.
area No. 47 East River, result of assay of specular iron-ore, (73-74) p. 225.
note on limonite deposits of, (73-74) p. 229.
area No. 100, note on limonite ore, (73-74) p. 230.
extract from G. M. Dawson's report on limonite deposits in areas Nos. 46-48, (73-74) p. 230.
analysis of limonite from Fraser Saddler area and Cullens No. 105, (73-74) pp. 233-234.
reference to former reports on spathic-ores of Sutherlands River, (73-74) p. 238.
extracts from report on spathic iron-ores of Sutherlands River by G. M. Dawson, (73-74) p. 238.
percentage of iron in clay-ironstone, (73-74) p. 242.
note on iron-ores of, (73-74) p. 259.
- Pictou gas-works, practical trial of Pictou coals in making gas, (66-69) E. pp. 433-434, F. p. 484.
special trials of Drummond coal, (66-69) E. p. 437, F. p. 489.
- Pictou light-house, latitude of, (66-69) E. p. 86, F. p. 96.
- Pictou Mining Co., Potters Brook slope, (66-69) E. p. 45, F. p. 51.
section of main seam, (66-69) E. p. 74, F. p. 82.
gas-trials of coal at Pictou gas-works, (66-69) E. p. 434, F. p. 484.
- Pie Island, Lake Superior, rocks of belonging to lower part of Upper Copper-bearing Series, (1863) p. 77.
assay of galena from, (80-82) p. 14 H.
nickel and cobalt in pyrrhotite from, (80-82) p. 15 H.
- Piegan Creek, Alta., general description of, (82-84) p. 19 C.

- Piercing of lip and ears by Haida Indians, (78-79) p. 109 B.
- Pierre and Fox Hill fossils from Smoky River. N.W.T., list of, (79-80) p. 124 B.
- Pierre Group, as found in Manitoba and the west, character and dip of beds, (79-80) pp. 15-16 A.
south of Wood Mountain, Assa., (79-80) pp. 36-37 A.
conditions of deposition, (79-80) p. 133 B.
- Pierre River, Gaspé, undulations in Hudson River rocks, (1863) p. 269.
- Pierre River, Coquihalla River, B.C., gold on, (77-78) p. 166 B.
- Pierre shales, note on distribution in southern Alberta, general characters, coal seams in lower part, (80-82) p. 7 B.
of North Branch, Milk River, (82-84) p. 37 C.
base of exposed on Milk River and the South Branch, (82-84) p. 39 C.
on Milk River Ridge, coal seam in, (82-84) pp. 49-50 and 51.
of St. Mary River, section of, with sections of coal seams in, (82-84) pp. 59-60 C.
of Old Man River and Belly River, with descriptions of coal-bearing zone at base, (82-84) pp. 69-73 C.
Little Bow River, horizon of Coal Banks seam, (82-84) p. 80 C.
exposures of, on Bow River, (82-84) pp. 89-91 C.
sandy intercalation in beds of on Bow and Red Deer rivers, (82-84) p. 90 C.
on Red Deer River, Alta., (82-84) p. 95 C.
on South Fork of Old Man River, (82-84) p. 99 C.
on Middle Fork, Old Man River, (82-84) p. 101 C.
character of upper and lower portion, thickness of series, (82-84) pp. 115-116 C.
near Rocky Mountains, character of, (82-84) p. 116 C.
characteristic beds at base of, a constant feature, examples, (82-84) p. 122 C.
estimate of amount of coal available at base of, (82-84) pp. 127-128 C.
- Piette's Harbour, Owen Sound, Ont., ancient beaches, height of above lake, (1863) p. 912.
- Pigeon cherry, occurrence of, in Nelson River valley, (78-79) p. 43 C.
range of, in Canada, (79-80) p. 54 C.
- Pigeon Hill, near Pembroke, Maine, Mascarene Series at, fossils of, (70-71) p. 158.
- Pigeon Hill, Shippegan Island, reported outcrop of coal at, (79-80) p. 46 D.
- Pigeon Lake, Ont., height of, (1863) p. 12.
- Pigeon Lake, Montreal River, rocks of, serpentines and limestones, (75-76) pp. 304-305.
analysis of serpentine from, (76-77) p. 843
- Pigeon Point, Scatari Island, N.S., felsite of, (77-78) p. 7. F.
- Pigeon River, Thunder Bay, Lake Superior, veins with copper-ores, (1863) p. 708.
lead-ore on, (66-69) E. p. 358, F. p. 396.
route along International boundary, description of, (72-73) pp. 92-93.
- Pigeon River, Lake Winnipeg, survey made by A. S. Cochrane, 1882, (80-82) p. 16.
- Pigments, minerals used for, iron-ochres, sulphate of baryta, (1863) pp. 763-771.
- Pi-jit-a-wa-bi-kong Bay, Lake Nipigon, rocks of (66-69) E. p. 341, F. p. 377.
- Pike Lake, Seine River, Ont., dip of gneiss at, (72-73) p. 98.
- Pike Lake, N. Burgess, Ont., deposits of mica at, (72-73) p. 179.
- Pike-perch of York Factory identified, (78-79) p. 6 C.
- Pike River, Lake Superior, distribution of Huronian rocks on lake, (1863) p. 63.
- Pike River, Que., note on mineral springs in, (1863) p. 541.
- Pike River, Stanbridge, Que., exposures of upper part, of Phillipsburgh Series, (1863) pp. 852-853.
- Pike River, upper waters of Saguenay River, Que., limestones on, (70-71) p. 287.
- Pikes pit, Acton, Que., extent of workings at, (1863) p. 716.
- Pilgrim Islands, St. Lawrence River, Que., quartzite rocks of, (1863) p. 259.
- Pillage Bay, Mingan Islands, Que., Potsdam sandstone on, (1863) p. 287.
- Pillar of Trap, Bon Ami Cape, Bay of Chaleurs, illustration by Logan, (80-82) facing p. 19 D.
- Pillars of sandstone, on St. Lawrence coast at Whale Point, St. Anne de Monts and Cape Tourelle, (1863) p. 263.
on coast near Ste Anne de Monts, Que., illustration showing (80-82) facing p. 26 DD.
- Pillar Bay, Graham Island, B.C., description of, (78-79) p. 39 B.
- Pillar Rock, Pillar Bay, Graham Island, B.C., illustration showing (78-79) facing p. 40 B.
description and composition of, (78-79) p. 83 B.
- Pillar sandstones of Gaspé, on coast west of Marsouin River, (80-82) pp. 24-31 DD.
- Pillar-working in coal mines, remarks on, (72-73) pp. 291-292.
- Pilot Knob, Missouri, reference to rocks of containing iron-ores, (1863) p. 66.
- Pilot Mountain, near Tatla Lake, B. C., exposures of rocks of Cascade Series, (75-76) p. 246.
- Pil-pil-poopil spring, Shuswap Lake, B.C., description of, (77-78) p. 25 B.
- Pimpla sazea*, Scudder, description of fossil insect from Tertiary beds of Quesnel, B.C., (75-76) p. 268.

- Pimpla senecta*, Scudder, description of, from Tertiary beds of Quesnel, B. C., (75-76) p. 268.
- Pimpla decessa*, Scudder, description of from Tertiary beds of Quesnel, B. C., (75-76) p. 269.
- Pine, white and red, of country between Temiscaming and Abitibi Lakes, (72-73) p. 132.
- Pinassee's house, Montreal River, Ont., greyish-red syenite, rocks of Montreal River near, (75-76) p. 303.
- Pincher Creek, Alta., analysis of lignite from four miles south of, (78-79) p. 12 H. general description of, (82-84) p. 23 C. description of valley, attitude of beds, Willow Creek beds, coal seams, (82-84) pp. 97-98 C. terraces in valley of, (82-84) p. 146. analysis of lignitic coal from Indian Farm, (82-84) p. 29 M.
- Pincher Creek trail, Alta., height at which Laurentian boulders were found, (82-84) p. 148 C.
- Pinchi River, Stuart Lake, B.C., size of, character of country near, (79-80) p. 28 B.
- Pine Brook, Colchester Co., N. S., Acadia Iron Mines, ore-beds traced to, (72-73) p. 22.
- Pine Brook, Richmond Co., N. S., Laurentian rocks in, (76-77) p. 423. heavy-spar in, (76-77) p. 447.
- Pine Brook, Round Mountain, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 10 H. description of barrens near, (82-84) p. 77 H.
- Pine Cañon, Bow River, general description of, (82-84) pp. 31-32 C. Laramie rocks of, (82-84) pp. 83-84 C.
- Pine Creek, Man., description of, (73-74) p. 24.
- Pine Hill, St. Francis River, Que., serpentine and slate, (1863) pp. 252-253.
- Pine Lake, Kenogami River, Ont., size of, (70-71) p. 338.
- Pine Lake, Franklin River, Keewatin, character of country around, (77-78) p. 5 CC.
- Pine Plains of Methuen Tp., Ont., rocks of, (66-69) E. p. 147, F. p. 163. age of granite, (71-72) p. 130.
- Pine Portage mine, Lake of the Woods, Ont., general description of mine and machinery, (82-84) pp. 13-17 K. assays of ore for gold and silver, (82-84) pp. 8-9 MM.
- Pine River, Huron Tp., Ont., exposures of cherty beds, probably Corniferous, (1863) p. 374.
- Pine River, Nelson River Sask., description of, survey by A. S. Cochrane, (79-80) pp. 8-9 C.
- Pine River, branch of Peace River, map showing survey of, by A. R. C. Selwyn, accompanying report, (75-76) p. 28. description of, (75-76) pp. 52-53.
- Pine River—Cont.
east branch of, seams of coal on, (75-76) p. 53.
barometric height at forks, (75-76) p. 54.
rocks exposed on, (75-76) p. 74.
illustration showing view from 'The Precipice,' (79-80) facing p. 38 B.
old lateral valleys and newer parts of present valley, (79-80) p. 41 B.
from Middle Forks to Lower Forks, description of, (79-80) pp. 42-43 B.
size of north branch and character of valley, (79-80) p. 61 B.
rocks of upper part, fossils found, Monotis beds, (79-80) pp. 112-113 B.
the Cretaceous rocks of, (79-80) pp. 113-120 B.
flexures of sandstones on north bank of, from limestone exposure eastward, (79-80) facing p. 114 B.
sandstone of upper part same as lower sandstone of Lower Forks, (79-80) p. 115 B.
cañon of, exposures of Lower sandstones and shales in, coal seams in, (79-80) p. 117 B.
fossils from Lower sandstones of Cretaceous, (79-80) p. 119 B.
forks of, note on fossil plants from, (79-80) pp. 120-122 B.
absence of drift on upper part of, (79-80) p. 139 B.
terraces on lower part of, drift material, (79-80) p. 139 B.
latitudes determined by A. Webster, 1875, (79-80) p. 165 B.
map of, scale 8 m. = 1 in., sheet No. II. with section, (79-80) accompanying Part B.
analysis of coal from Lower Forks and Coal Brook, (79-80) pp. 13-14 H.
analysis of lignite from Coal Brook, (82-84) pp. 25-26 M.
analyses and calorific power of coals from, (82-84) p. 39 M.
- Pine River North, Peace River', fine country drained north of, (75-76) p. 51.
- Pine River Bay, Lake Superior, silver-ore reported at, (72-73) p. 109.
- Pine River Pass, B. C., trail-crossing on Parsnip River, explored by A. R. C. Selwyn, (75-76) p. 38.
illustration showing, (75-76) facing p. 54.
as a railway route to Parsnip River, (75-76) p. 56.
illustration showing Summit Lake and view down valley of Atunatche River, (79-80) frontispiece to, Part B.
illustration showing Summit Lake and Limestone Mountains, (79-80) facing p. 36 B.
and Pine River, general description of, to Lower Forks, (79-80) pp. 36-46 B.
note on barometric observations for height of, (79-80) p. 37 B.
latitude of camp at summit, (79-80) p. 37 B.
note on, as railway route, (79-80) pp. 43-44 B.
note on vegetation and climate of, (79-80) p. 44 B.

- Pine River Pass, B.C.—*Cont.*
 note on game and Indians of, (79-80) p. 45 B.
 no evidence of passage of drift material across westward (79-80) p. 141 B.
 latitude observations taken on, (79-80) p. 158 B.
- Pine-tree Bank, Pictou, N.S., freestone quarry, fossil plants in rocks of, (66-69) E. p. 10, F. p. 11.
- Pine-tree Brook, Pictou, N.S., impure limestones and sandstones, (66-69) E. p. 9, F. p. 10.
- Pine-tree Gut, Pictou, N.S., rocks of, (66-69) E. p. 10, F. p. 11.
- Pink felsite of Pigeon Point, Scatari Island, N.S., (77-78) p. 7 F.
- Pinna subcancellata*, Whiteaves, description of, from Iltasyouco River, B.C., (76-77) p. 153.
- Pinnacle Hill, Renfrew, Ont., height of, (76-77) p. 261.
- Pinnacle Mountain, Que., reference to micaceous iron-ores found in, (1863) p. 510.
 microscopic structure of felspathic actinolite-schist from, (80-82) p. 14-16 A.
- Pinus albicaulis*, Engelm., distribution and character of, in British Columbia, (79-80) p. 174 B.
- Pinus Banksiana*, Lamk., note on northern range of, in Canada, (79-80) p. 46 C.
- Pinus contorta*, Douglas, note on distribution and character of, in British Columbia, (79-80) p. 173 B.
 occurrence of east of mountains, (79-80) p. 56 C.
- Pinus monticola*, Douglas, distribution and character of, in British Columbia, (79-80) p. 174 B.
- Pinus ponderosa*, Douglas, distribution of, in British Columbia, (79-80) p. 172 B.
- Pinus resinosa*, Ait, northern limit of, in Canada, (79-80) p. 50 C.
- Pinus rigida*, Mill., occurrence of, in Ontario, (79-80) p. 56 C.
- Pinus strobus*, Linn., northern range of, in Canada, (79-80) p. 49 C.
- Piper Cove, N.S., outlier of Laurentian rock at, (76-77) p. 414.
 conglomerate of, (76-77) p. 440.
- Pipestone, on Black River, Lake Superior, a reddish limestone, (66-69) E. p. 336, F. p. 371.
 on Mattagami River, Ont., (75-76) p. 312.
 from Rainy Lake, Ont., (73-74) p. 89.
 reported at Red Lake, Keewatin, (72-73) p. 103.
- Pipestone Bay, Island Lake, Keewatin, steatitic schist of, (78-79) p. 37 C.
- Pipestone Lake, Nelson River, fall in river to, (77-78) p. 14 CC.
 Huronian rocks of, (77-78) p. 19 CC.
- Pirate Brook, Bay of Chaleurs, Devonian rocks exposed at, (79-80) p. 13 D.
- Pirate Cove, Bay of Chaleurs, conglomerates determined to be Devonian, (80-82) p. 7 D.
 Devonian conglomerates of, (80-81) p. 10 D.
- Pirate Harbour, Guysborough, N.S., Devonian limestone quarried at, (79-80) p. 42 F.
 section of Devonian rocks in East Pirate Harbour Brook, (79-80) p. 42 F.
 Devonian rocks exposed along the Guysborough road, (79-80) p. 45 F.
 limestone and gypsum of, (79-80) p. 61 F.
 note on limestone quarries of vicinity, (79-80) p. 124 F.
- Pirus rivularis*, Douglas, occurrence of in British Columbia, (79-80) p. 176 B.
- Pirus sambucifolia*, Cham., note on occurrence in British Columbia, (79-80) p. 176 B.
- Pisarinco, N.B., specular iron-ore at, (70-71) p. 223.
- Pisarinco Cove, N.B., section of Laurentian on shore at, (70-71) p. 44.
- Pisarinco Harbour, N.B., Huronian rocks of (70-71) p. 60.
 supposed St. John Group on Mill Creek, N.B., (70-71) p. 140.
- Piskahegan Falls, Charlotte Co., N.B., pre-Carboniferous rocks, the dark argillite series, (70-71) p. 194.
- Piskahegan River, N.B., bright red shales and conglomerates, character of pebbles, (72-73) p. 186.
 head-waters of, felsite area in Sunbury Co., N.B., (75-76) p. 351.
 exposures of Devonian rocks of, (76-77) p. 333.
- Piskahegan settlement, N.B., mica-schists of, (70-71) p. 57.
 supposed Huronian rocks of, (70-71) p. 83.
 pre-Carboniferous rocks, dark argillite series, (70-71) p. 195.
- Pisolitic limestone, Big Harbour, N. S., (76-77) p. 445.
- Pistacite in fibrous mass, Sheldon Point, St. John, N. B., (70-71) p. 240.
- Pistolet Bay, Nfld., note on attitude of rocks in, section of slates and serpentines, (1863) p. 874-875.
 note on dislocations and faults, (1863) p. 876.
 Lévis and Sillery Formations on, (1863) p. 880.
- Pitch, mineral, *see* Asphalt.
- Pitch-blende, *see* Uranium.
- Pitch pine, occurrence of in Ontario, (79-80) p. 56 C.
- Pitchstone, found in crystalline rocks of Canada, (1863) p. 648.
 found on Michipicoten Island, Lake Superior, at Fletcher mine, (1863) p. 704.
 on Michipicoten Island, (63-66) p. 141.
- Pittsburg Tp., Ont., sandstone of, used in furnaces, (1863) p. 799.

- Placer deposits in British Columbia, shallow and deep, (76-77) p. 108.
of the Fraser River, (76-77) p. 118.
- Placer gold, distribution of in Bow and Belly River district, Alta., origin of, (82-84) p. 152 C.
- Placer mining in southern British Columbia, notes on localities, (77-78) pp. 153-160 B. localities, list of, in 1861, (82-84) p. 35 B.
- Plains between Belly and Bow rivers, general description of, (82-84) pp. 26-29 C.
between Milk River and Belly River, general description of, (82-84) pp. 18-20 C.
extent of, in southern Alberta, general note on character of, (82-84) pp. 8-10 C.
- Plan, of Cowgitz coal mine and vicinity, B.C., (78-79) p. 72 B.
and section of Dalhousie iron mine, Ont., (72-73) facing p. 176.
and elevation of Haida Indian house, plate XIV., (78-79) Part B.
of Harvey Hill mine, Leeds, Que., (1863) p. 706.
showing distribution and section of limestone conglomerates in Quebec Group at Lévis, (1863) Atlas.
of mouth of Moose River, James Bay, by R. Bell, with note by A. R. C. Selwyn, (80-82) p. 10 C.
of coal mines, necessity of, remarks by Mr. Rutherford, (72-73) p. 294.
- Planophlebia*, nov. gen., description of, by S. H. Scudder, (77-78) p. 184 B.
- Planophlebia gigantea*, Scudder, description of, from Tertiary of Similkameen, B.C., (77-78) p. 185 B.
- Planorbis veterinus*, Meek and Hayden, note on specimens from Itasyouco River, B.C., (76-77) p. 156.
- Plantagenet, Ont., mineral springs, location of, character of water, reference to analysis, (1863) p. 541.
analysis of water from Larocque's and Georgia springs, (1863) p. 548.
reference to analyses of water from springs, (1863) p. 541.
- Plantagenet Tp., Ont., outcrop of Trenton Group and Utica Formation in, (1863) p. 170.
- Plants, action of on sediments in water, (1863) p. 571.
crossing Arctic Circle, list of, by J. Macoun, (78-79) pp. 53-60 C.
common and alpine, of central British Columbia, (70-71) p. 71.
collected by G. M. Dawson in 1879, northern British Columbia and Peace River, list by J. Macoun, (79-80) pp. 143-146 B.
of Skeena River, division of coast and interior floras, (79-80) p. 14 B.
list of from Queen Charlotte Islands, collected by G. M. Dawson, (78-79) pp. 219-222 B.
from west coast, B.C., named by George Barnston, reference to, (74-75) p. 83.
- Plants—*Cont.*
catalogue of collections from Vancouver Island, Fraser, Peace, Athabasca and Saskatchewan rivers, (75-76) pp. 186-232.
list of herbaceous plants in flower in May, on Vancouver Island, B.C., (75-76) p. 115.
used by Indians of British Columbia as food, (75-76) p. 138.
list of, from Hudson Bay and Churchill and Nelson rivers, (78-79) pp. 53-60 C.
list of, collected by R. Bell in Nelson River valley, 1880, (79-80) pp. 59-69 C.
crossing the Arctic Circle, (79-80) pp. 59-66 C.
common to Gulf of St. Lawrence, giving their range westward, (79-80) p. 68 C.
common to Lake Superior, giving their range westward, (79-80) p. 67 C.
which extend southward to prairies, (79-80) p. 68 C.
list of, collected by R. Bell on Coast of Labrador and Hudson Strait and Bay, (82-84) pp. 38-47 DD.
of Hastings Co., Ont., list of by J. Macoun, (80-82) pp. 19-28 C.
of the Manitoulin Islands, Ont., by John Bell, list of, (66-69) E. pp. 449-465, F. pp. 501-519.
common names of, (66-69) E. p. 466-469, F. pp. 520-524.
catalogue of by J. Macoun, from southern part of basin of Moose River and Michipicoten River, Ont., collected by R. Bell, (80-82) pp. 17-28 C.
found in western New Brunswick, note on, with partial list, (82-84) pp. 44-45 GG.
in peat deposits of New Brunswick, (77-78) pp. 33-34 EE.
list of ferns of southern Cape Breton Island, N.S., (79-80) p. 115 F.
of Magdalen Islands, Que., list of and notes by J. Macoun, (79-80) pp. 12-15 G.
list of collected by Jas. Richardson, north of Lake St. John, Que., (70-71) pp. 306-308.
- Plants, fossil, of the Devonian and Silurian rocks of Canada, by J. W. Dawson, reference to, (71-72) p. 15.
of Gaspé sandstone, lists, with wood-cuts of, (1863) pp. 394-401.
of Devonian, found in Queens Co., N.B., referred to, (75-76) p. 368.
Carboniferous, of Coffin Point, N.S., (76-77) p. 445.
from Cossitt's pits, near Sydney, N.S., (74-75) pp. 191-192.
in volcanic breccia, Battle Mt., Chilcotin River, B.C., (75-76) p. 253.
fragmentary, in Nechacco Series, B.C., (76-77) p. 73.
from Cretaceous rocks near Lytton, B.C., note on, (77-78) pp. 109-110 B.
in lignite seams, Woody Mt., Assa., (73-74) p. 80.
in lignite of the Dirt Hills, Assa., (73-74) p. 78.
from Porcupine Creek, International Boundary, Assa., (79-80) p. 30 A.

Plants—Cont.

- from Lignite Tertiary of Great Valley, International Boundary, Assa., (79-80) p. 25 A.
- from Bad Lands, south of Wood Mt., Assa., (79-80) p. 34 A.
- from Blackwater River, B.C., note by J. W. Dawson, list of species, (75-76) p. 260.
- from Quesnel, B.C., (71-72) p. 59.
- note by J. W. Dawson, list of species, (75-76) pp. 259-260.
- found in Leda clay of Greens Creek, Ottawa River, Ont., (1863) p. 917.
- Plant Point, N.S., Lloyd Cove coal-seam near, (74-75) p. 235.
- to Little Bras d'Or bridge, section of strata, (74-75) p. 237-238.
- Plaster or gypsum, in Boulacett Harbour, Cape Breton Island, N.S., (76-77) pp. 406, 438.
- in Carboniferous limestone of Cape Breton, (76-77) pp. 442-446, 454.
- statistics for Ontario, 1869-71, (71-72) p. 147.
- Plaster Cliff, Tobique River, N.B., gypsum in cliff, (66-69) E. p. 202, F. p. 224.
- Plaster Cove, N.S., gypsum of, (76-77) p. 442.
- Devonian rocks of vicinity, (79-80) p. 50 F.
- to Emery Pond, Strait of Canso, section of Carboniferous rocks, (79-80) pp. 79-83 F.
- extension of rocks of, (79-80) pp. 93-97 F.
- exposures of rocks in brooks entering, (79-80) p. 94 F.
- Plaster works of Hillsboro, N.B., (76-77) p. 295.
- Platanus nobilis*, Newberry, note on specimens from Roche Percée, Souris River, Assa., with description, (79-80) p. 51 A.
- Platanus occidentalis*, Linn., note on range of, in Canada, (79-80) p. 55 C.
- Plateau, south of Athabasca River and west of Athabasca Landing, note on, (79-80) p. 84 B.
- south of Belly River, Alta., (82-84) p. 18 C.
- north of Dunvegan, Atha., description of, (79-80) p. 58 B.
- south of Hudson's Hope, Peace River, description of, (79-80) p. 62 B.
- interior, of British Columbia, formation of lakes on, (77-78) p. 16 B.
- south of Kamloops, B.C., general glaciation of (77-78) p. 136 B.
- above Kes-la-chick River, B.C., (76-77) p. 40.
- elevation at Kuy-akuz Lake, B.C., (76-77) p. 24.
- east of Mud River and south of Peace River, description of, (79-80) p. 48 B.
- of Pine River, B.C., below Cañon, description of, (79-80) p. 43 B.
- between Quesnel and Blackwater, B.C., general level, boulder clay, (76-77) p. 19.
- edge of basalt, south of Blackwater valley, B.C., (76-77) p. 25.
- upland, north-east of Il-ga-chuz Mts., B.C., (76-77) p. 37.
- Platinum, in British Columbia, general note on, (76-77) p. 133.
- on Similkameen River, B.C., (77-78) p. 156 B.

Platinum—Cont.

- in gravels at Tranquille River, B.C., (77-78) p. 155 B.
- found with gold at Rivière du Loup, Que., (1863) pp. 520, 741.
- PLATT, SAMUEL, record of Goderich well kept by, (63-66) p. 269.
- estimate of cost of boiling salt, (66-69) E. p. 223, F. p. 246.
- improvements in manufacture of table salt, (74-75) p. 279.
- Platts system of salt-making, note on, (66-69) E. p. 226, F. p. 249, and, (74-75) p. 295.
- Platyceras ventricosum*, Hall, wood-cut of, (1863) p. 958.
- Platystoma ventricosa*, Conrad, wood-cut of, (1863) p. 962.
- Playfair, Ont., eastern end of granite series, (72-73) p. 148.
- band of crystalline limestone, character and distribution of, (73-74) p. 104.
- banded limestone of top of group IV, (74-75) p. 150.
- hornblende rocks of, (74-75) p. 150.
- Pleasant Bay, Magdalen Islands, Que., sections of rock-exposures on Amherst Island, (79-80) pp. 3-4 G.
- Pleasant Bay, Inverness Co., N.S., galena of Carboniferous rocks referred to, (80-82) p. 8.
- pre-Cambrian rocks of interior near (82-84) p. 20 H.
- Lower Carboniferous rocks of, (82-84) p. 46 H.
- Lower Carboniferous limestone series, (82-84) p. 52 H.
- on occurrence of galena at, (82-84) p. 93 H.
- occurrence of bitumen at silver mine near McKenzie Point, (82-84) p. 93 H.
- Pleasant Bay Map-sheet, Nova Scotia, issued 1884, scale 1 m. = 1 in.
- Pleasant Lake, Kings Co., N.B., Huronian rocks, Coldbrook Series, (70-71) p. 65.
- Pleasant Ridge, New Brunswick, hills of slate belt, (70-71) p. 16.
- Pleasant Valley, B.C., gold workings in (76-77) p. 136.
- Pleasant Valley, N.B., distribution of the Albert shales, (76-77) p. 360.
- Pleuromya Carlottensis*, Whiteaves, remarks on, (76-77) p. 156.
- Pleuromya subelliptica*, Meek and Hayden, note on specimens from Itasyouco River, B.C., (76-77) p. 155.
- Pleuromya unionides*, Römer, note on specimens from Sigutlat Lake and Itasyouco River, (76-77) p. 155.
- Pleurotomaria* Sp., notes on specimens from Athabasca River, (75-76) p. 105.
- Pleurotomaria Americana*, Billings, section of, (1863) p. 184.

- Pleurotomaria calcifera*, Billings, wood-cut of, (1863) p. 117.
- Pleurotomaria calyx*, Billings, wood-cut of (1863) p. 132.
- Pleurotomaria docens*, Billings, wood-cut of, (1863) p. 132.
- Pleurotomaria Elora*, Billings, wood-cut of, (1863) p. 343.
- Pleurotomaria Eugenia*, Billings, wood-cut of, (1863) p. 144.
- Pleurotomaria Gallensis*, Billings, wood-cut of, (1863) p. 343.
- Pleurotomaria gregaria*, Billings, wood-cut of, (1863) p. 119.
- Pleurotomaria Laurentina*, Billings, wood-cut of, (1863) p. 117.
- Pleurotomaria Prognæa*, Billings, wood-cut of, (1863) p. 181.
- Pleurotomaria Ramsayi*, Billings, wood-cut of, (1863) p. 117.
- Pleurotomaria solaroides*, Hall, wood-cuts of, (1863) p. 341.
- Pleurotomaria supracingulata*, Billings, wood-cut of, (1863) p. 181.
- Pleurotomaria subconica*, Hall, wood cut of, (1863) p. 180.
- Plumbaginous rocks of Gregwa Brook, N.S., (76-77) p. 431.
- Plumbaginous slates, occurrence of in Eastern Townships, Que., (1863) p. 529.
- in Hudson River valley, referred to, (1863) p. 623.
- of Howland ridge, York Co., N.B., (82-84) p. 19 G.
- Plumbago, note on origin, occurrence of in Laurentian, (1863) p. 529.
- economic uses, note on sources of, additional notes on localities in Canada, (1863) p. 793.
- report on by G. C. Hoffmann, (76-77) pp. 489-510.
- rocks holding, general arrangement of, (76-77) p. 280.
- general note on industry, ore dressing, method employed at Ticonderoga, (82-84) pp. 30-31 J.
- shipment of to Jersey City, (76-77) p. 316.
- improvements desirable in treatment of, (76-77) p. 319.
- of Buckingham, Que., percentage of, in rocks, (76-77) p. 315.
- mode of occurrence, (73-74) pp. 139-140.
- localities worked in, (76-77) p. 309.
- in veins, (76-77) pp. 309-311.
- pure form in veins, (76-77) p. 313.
- disseminated beds of, (76-77) p. 314.
- large vein of in, (76-77) p. 315.
- in crystalline limestone, (76-77) p. 318.
- in Frontenac and Lanark Cos., Ont., note on mode of occurrence, (74-75) p. 164.
- of Gillis Lake, N.S., (76-77) p. 435.
- in Lochaber Tp., Que., note on workings for, (76-77) p. 319.
- Plumbago—*Cont.*
- in New Brunswick, statistics for 1869, (71-72) p. 151.
- in Ottawa Co., Que., deposits of, (73-74) pp. 139-146.
- report on, (76-77) pp. 308-320.
- distribution of, (76-77) p. 309.
- for Quebec, statistics for 1869-71, (71-72) p. 148.
- from Vancouver Island, B.C., (76-77) p. 149.
- see also Graphite.
- Plumbago-bearing rocks, character of, (76-77) p. 308.
- Plumbago mine, North Elmsley Tp., Ont., occurrence of ore, mode of dressing, (72-73) p. 178.
- Lochaber Tp., Que., abandoned, (76-77) p. 319.
- Plympton Tp., Ont., note on clay terrace in, (1863) p. 901.
- Playter's process of smelting, success at Norton, Eng., (66-69) E. p. 253, F. p. 280.
- Pocologan Harbour, N.B., schists of Coastal Group, (70-71) p. 93.
- Pohenegamook road, Que., width of second division of Potsdam, (66-69) E. p. 129, F. p. 144.
- Point Aconi, N.S., section of strata of Coal Measures south of, (74-75) pp. 245-247.
- Point Aconi coal-seam, equivalent to Cranberry Head seam, (74-75) p. 243.
- section of, (74-75) p. 245.
- Point Albino, Lake Erie, undulations in Corniferous, (63-66) p. 258.
- Pointe la Biche, or Great Bend, Athabasca River, lignite in banks at, sandstone pillars, (82-84) p. 12 CC.
- Point Boucher, Georgian Bay, character of bands and fossils found at, (1863) p. 215.
- Pointe aux Bouleaux, Bay of Chaleurs, Que., rocks of, (1863) p. 444.
- small exposure of Lower Carboniferous, (80-82) p. 9 D.
- Pointe à Bourdeau, Bay of Chaleurs, Devonian rocks at, (79-80) p. 11 D.
- Pointe Brulé, Athabasca River, height of bank, terraces on, (82-84) p. 14 CC.
- shingle and boulders on top of sandstone cliffs, (82-84) p. 30 CC.
- Pointe Brulé, Lake Superior, rocks of, (76-77) p. 216.
- Pointe à Cavagnol, Vaudreuil Seignory, Que., deposit of marl, (1863) p. 966.
- Pointe au Choix, Nfld., rocks of, equivalent to Calciferous, fossils common to both, (1863) p. 293.
- Pointe Claire, Montreal Island, Que., Chazy Formation, occurrence at, (1863) p. 131.
- exposures of Chazy and Birdseye and Black River Formations, fossils at, (1863) p. 140.
- quarry at, stone used in Victoria Bridge, (1863) p. 141.

- Pointe Claire, Montreal Island, Que.—*Cont.*
conglomerate filling, fissure in Trenton,
probably Lower Helderberg, (1863) p. 357.
note on limestone for building purposes,
(1863) p. 817.
black marble, note on, (1863) p. 827.
- Point Clarke, Lake Huron, cherty fossiliferous
beds of Corniferous exposed near, (1863)
p. 374.
- Point Clear, Boulardrie Island, N.S., rocks of,
(76-77) pp. 445, 448.
- Pointe Corbeau, Gaspé, Que., undulations in
Hudson River rocks, (1863) p. 269.
- Point Douglas, Lake Huron, probable outcrop of
Oriskany and Onondaga near, (1863)
p. 363.
exposures of Corniferous and lower unfos-
siliferous strata, (1863) pp. 373-374.
cement beds at, noted, (1863) p. 807.
- Point Dover, Ont., epsomites in Corniferous at,
(1863) p. 367.
- Point Dumai, Bay of Chaleurs, note on ex-
posures on coast at, (1863) p. 452.
- Point Edward, N.S., disturbances in Carbonif-
erous rocks, Lower Carboniferous of,
(73-74) pp. 172-173.
section of Carboniferous limestone to Morris-
sons Brook, (74-75) pp. 172-174.
- Point Escuminac, N.B., depth of peat-bogs at,
(79-80) p. 43 D.
- Point Fortune, Ottawa River, base of Chazy
Formation crosses river at, (1863) p. 126.
- Pointe à la Garde, Bay of Chaleurs, Que., sil-
icious conglomerate at, (1863) p. 449.
trap conglomerates of, referred to, (79-80)
p. 11 D.
Devonian beds and trap hills, relations of,
(80-82) p. 18 D.
- Point Gargantua, Lake Superior, calcite and
fluor-spar in syenite at, (1863) p. 463.
- Pointe du Grand Detroit, Vaudreuil, Que.,
tracks on beds of Potsdam sandstone,
(1863) p. 90.
- Pointe à la Hache, St. Maurice River, Que., ex-
posure of Utica Formation, (1863) p. 104.
- Point Holmes, Connox, B.C., thickness of super-
ficial deposits, (71-72) p. 94.
- Point Hungcliff, Georgian Bay, cliffs of Clinton
Formation at, (1863) p. 319.
- Point Iroquois, Lake Superior, sandstones re-
ported in vicinity of, (1863) p. 83.
- Pointe Jaune, Gaspé Bay, section of Gaspé
sandstone at, (1863) pp. 394-396.
note on exposures of Bonaventure Formation
at, (1863) p. 405.
contact of sandstone and conglomerates at,
(80-82) p. 10 DD.
shales and knobbed sandstones at, (80-82)
p. 19 DD.
- Point du Lac, Que., note on deposits of iron-
ochre at, analysis of ore, (1863) pp. 511-
513.
- Pointe du Lac Seigneurie, Que., deposit of ochre
in, note on workings of, (1863) p. 769.
- Point Lepreau, N.B., Perry sandstones of,
(70-71) p. 203.
- Point Lévis, Que., the measures exposed at,
(1863) p. 230.
list of graptolites found at, (1863) p. 232.
crystals and masses of calcite at, (1863)
p. 455.
phosphatic nodules, coprolites, in rocks at,
(1863) p. 462.
analysis of glauconite from, (1863) p. 487.
analysis of dolomite from, (1863) p. 613.
native copper found at (1863) p. 720.
note on conglomerate bands in Quebec
Group at, general distribution and list of
fossils found in each, (1863) pp. 860-864.
plain and section showing distribution of
limestone conglomerates in Quebec Group,
(1863) Atlas.
- Point la Lime, Bay of Chaleurs, conglomerates
and trap rocks, Bonaventure Series at,
(1863) pp. 450-451.
carbonaceous shale, (79-80) p. 11 D.
- Pointe à Maçon, St. Lawrence River, Trenton
limestone exposed at, (1863) p. 154.
- Point Maguacha, Bay of Chaleurs, Lower Car-
boniferous rocks at, (80-82) p. 7 D.
- Point Mamainse, Lake Superior, red and green
thomsonite found at, (1863) p. 481.
rocks of, (76-77) p. 213.
- Point Marshall, Texada Island, B.C., marbles of,
value for building stones, (73-74) p. 102.
- Point Michaux, Richmond Co., N.S., syenite,
diorite and felspathic shales, (77-78)
p. 10 F.
sand-beaches, magnetic sand, (77-78) p. 27 F.
- Point Midjie, Passamaquoddy Bay, N.B., Perry
sandstone of, (70-71) p. 203.
- Pointe aux Mines, Lake Superior, sandstones
and trap, dislocation at, (1863) p. 82.
rocks of, (76-77) p. 216.
copper-ores of, notes on veins of, (1863)
p. 702
gneiss at, (63-66) pp. 116-119.
melaphyre at, (63-66) p. 121.
pegmatite veins explored for copper, (63-66)
p. 122.
section of copper-bearing rocks near, (63-66)
p. 132.
trap rocks north of, (63-66) p. 136.
description of abandoned copper-mine at,
(63-66) p. 144.
flagstones on shores of bay south of, (76-77)
p. 215.
- Point Montresor, Georgian Bay, Ont., Hudson
River, rocks recorded at, (1863) p. 214.
- Pointe des Morts, Saguenay Co., Que., Calcife-
rous rocks in bay near, fossils of, (1863)
p. 122.
fine grey intrusive diorite, (66-69) E. p. 306,
F. p. 338.

- Point Peter, Gaspé, note on Bonaventure Formation exposed at, (1863) p. 405.
effect of anticline on exposures of Gaspé Series, (1863) p. 883.
- Point Peuplier, Bay of Chaleurs, red shale, pipe-stone, (1863) p. 450.
exposures of Devonian, (79-80) p. 11 D.
- Point Phipps, Hornby Island, B.C., Middle shales at, (72-73) p. 48.
- Point Pin Sec, Bay of Chaleurs, carbonaceous shales and beds of intrusive rocks, (1863) p. 450.
carbonaceous shale, intrusive trap and trap-conglomerate, (79-80) p. 11 D.
- Point Porphyry, Lake Superior, western edge of trapezoid part of Upper Copper-bearing rocks, (1863) p. 78.
brecciated veins with copper-ores, (1863) p. 707.
- Point Rich, Georgian Bay, Ont., characters of beds and fossils found at, (1863) p. 215.
Hudson River Formation, exposures on, (1863) p. 213.
- Point Rich, Nfld., characters thickness and fossils of limestones, (1863) p. 290.
position of limestone series at, (1863) p. 292.
rocks of, appear to be above Calciferous, (1863) p. 293.
- Point Roberts, Gulf of Georgia, B.C., note on boulder-drift of, (82-84) p. 10 B.
- Point of rocks, Athabasca River, limestones holding fossils, (75-76) p. 93.
- Point St. Charles, Montreal, Que., exposures of Utica shale, (1863) p. 207.
- Point St. Margaret, Que., labradorite rocks of, (66-89) E. p. 307, F. p. 339.
- Point St. Peter, Gaspé, rocks of Bonaventure Formation at, (1863) p. 437.
Devonian rocks at, thickness and section, referred to, (80-82) p. 5 DD.
eastern termination of anticline at, (80-82) p. 10 DD.
- Pointe aux Trembles, Athabasca River, botanical notes, (75-76) p. 169.
- Pointe aux Trembles, Que., anticline in Laurentian, (1863) p. 96.
the Trenton rocks of, (1863) p. 155.
Utica Formation, exposures of, near, (1863) p. 201.
limestone of, used in building at Quebec, (1863) p. 819.
colored section across St. Lawrence, at, (1863) Atlas.
- Pointe aux Trembles, Lake Témiscouata, Que., section of Gaspé Series at, (1863) p. 423.
- Point Tupper, Straits of Canso, N.S., section of rocks on, (79-80) pp. 86-88 F.
- Point Vertical, Louise Island, Q.C. Is., B.C., description of, (78-79) p. 27 B.
massive limestone beds, (78-79) p. 61 B.
- Point Wilkins, Lake Winnipegosis, Man., Devonian rocks of cliff, with illustration (74-75) p. 67.
- Point William, Georgian Bay, Ont., limestone and sandstone of Hudson River Formation, (1863) p. 214.
- Point Wolf, Albert Co., N.B., rocks on coast west from and north of, (70-71) p. 100.
basal beds of Lower Carboniferous at, (70-71) p. 211.
copper-ores found at, (70-71) p. 225.
- Point-du-Jour, Assomption, Que., mineral spring at, character of, (1863) p. 533.
- Poison-weed, of interior of British Columbia, *Veratrum album*, (77-78) p. 40 B.
- Pokiok River, St. John River, Carleton Co., N.B., igneous rocks of, (70-71) p. 243.
veins of felspar cutting red granites, (84-84) p. 26 G.
note on Dr. Gesner's discovery of tin-ore, (82-84) p. 29 G.
kame at mouth of, on St. John River, (82-84) p. 21 GG.
- Pokomooshine Brook, Canterbury Parish, N.B., iron-bearing beds near Oak Mountain,, (82-84) pp. 16-17 G.
- Pokowogamis Ridge, Canterbury Parish, Carleton Co., N.B., igneous rocks in Cambro-Silurian composing, (82-84) p. 15 G.
- Pokowogamis settlement, Canterbury Parish, N.B., boulders of amygdaloid, indicating band of igneous rocks near, (82-84) p. 17 G.
- Poland, Ont., coarse syenite and diorite band at, (74-75) p. 138.
- Polar-bear, southern range of, in Hudson Bay basin, (77-78) p. 29 C.
- Pole Hill, N. B., limestones used in Woodstock furnaces as flux, (66-69) E p. 208, F p. 251.
organic remains in limestone, (70-71) p. 249.
iron-ore localities on north side of, (74-75) p. 101.
note on iron-ores of, (74-75) p. 102.
- Polished pebbles in conglomerate at Grand Rapid, Athabasca River, (82-84) p. 10 CC.
- Pollards Brook, Patapedia River, N.B., slates of Gaspé Series at, (1863) p. 417.
- Pollet River, Albert Co., N.B., Lower Carboniferous conglomerates, basal beds, (70-71) p. 208.
supposed Huronian at head of, in Kings Co., N.B., (70-71) p. 65.
assay of rock from near Elgin Corner for tin, (75-76) p. 432.
exposures of Albert shales, (76-77) p. 361.
diagrammatic section of Lower Carboniferous rocks, (76-77) facing p. 356.
note on, (76-77) p. 362.
analysis and microscopical examination of infusorial earth from, (78-79) pp. 4-6 H.
- Pollet River Lake, N.B., note on deposit of infusorial earth, (78-79) p. 26 D.
analysis and practical tests of tripolite or infusorial earth in brick-making, (79-80) pp. 3-6 H.
red syenite area, (77-78) p. 24 DD.

- Pollock fishery of Haida Indians of Q. C. Is., B.C., (78-79) p. 110 B.
- Polson Lake, N. S., analysis of copper-ore and spathic iron-ore from, (76-77) p. 476.
- Polygamy among Haida Indians, (78-79) p. 130 B.
- Pond Lily Lake, Frontenac, Ont., escarpment of base of Trenton Group, (1863) p. 179.
- Ponds of the plains with boulder-beaches, note on origin, (74-75) p. 52.
- Ponsard's method of smelting iron-ores, (66-69) E. p. 292, F. p. 323.
- Ponsonby Tp., Que., limestone bands in Laurentian, Green Lake band and Grenville band, (1863) p. 837.
- Pontiac County, Que., investigations in, report by H. G. Vennor, (76-77) pp. 277-301. gneisses of, (76-77) p. 280.
for general geology see also *Part I*, p. 10.
- POOLE, HENRY, paper by, on Fraser's coal mine, referred to, (66-69) E. p. 45, F. p. 50. information supplied by, (66-69) E. p. 67, F. p. 74.
- POOLE, FRANCIS, reference to book on Q. C. Is., and map of Skincuttle Inlet, (78-79) p. 17 B.
- Poole's shaft, Skincuttle Inlet, Q. C. Is., analysis of copper-ore, (78-79) p. 16 H.
- Pope's Cradle, mountain near Stuart Lake, B.C., limestones of, (75-76) p. 78, and (76-77) p. 55.
view from summit, botanical notes, list of plants, (75-76) p. 136.
- Pope's Folly, Casco Bay, N.B., rocks of, (70-71) p. 90.
- Poplar Lake or Swamp Lake, International boundary west of Lake Superior, size of, (72-73) p. 93.
- Poplar Lodge, Lake Nipigon, Ont., rocks at, (66-69) E. p. 343, F. p. 379.
copper-pyrites in veins on shore near, (66-69) E. p. 360, F. p. 399.
- Poplar Lodge River, Lake Nipigon, Ont., extent of sandy country, (66-69) E. p. 356, F. p. 394.
galena from, (66-69) E. p. 360, F. p. 398.
- Poplar Portage, International boundary west of Lake Superior, rocks of, (72-73) p. 93.
- Poplar River, Man., survey made by A. S. Cochrane, 1882, (80-82) p. 16.
- Population, Indian, of northern part of British Columbia, the Indian villages, (79-80) pp. 30-31 B.
of Queen Charlotte Islands, estimates of, (78-79) pp. 171-175 B.
of Skeena River valley, B.C., (79-80) p. 20 B.
- Populus*, fossil species from Vancouver Island, (72-73) p. 68.
- Populus balsamifera*, Linn., note on range of, in Canada, (79-80) p. 45 C.
- Populus grandidentata*, Michx., note on northern range of, in Canada, (79-80) p. 56 C.
- Populus monilifera*, Ait., occurrence on Assiniboine River, Man., noted, (79-80) p. 56 C.
- Populus tremuloides*, Michx., occurrence of, in British Columbia, (79-80) p. 177 B.
note on range of, in Canada, (79-80) p. 45 C.
- Populus trichocarpa*, T. and G., note on occurrence of, in British Columbia, (79-80) p. 177 B.
- Porcelain, apatite for manufacture of, probably suitable, (1863) pp. 758, 801.
clay for finer grades, not found in Ontario and Quebec, (1863) p. 801.
material suitable for, on Noo-cho Island, François Lake, B.C., (76-77) p. 87.
- Porcupine Creek, International boundary, 49th parallel, exposures in, with section and diagrammatic sections, (79-80) p. 28 A.
eighteen-foot lignite seam, near, (79-80) p. 29 A.
fossil plants from, (79-80) p. 30 A.
analyses of lignite from, in table, (76-77) facing p. 472, and (79-80) p. 45 A.
- Porcupine Hills, Alberta, physical features of, (82-84) p. 10 C.
character of rocks, geological structure, thickness of beds, fossils, (82-84) p. 96 C.
diagrammatic section, showing attitude of beds, (82-84) facing p. 106 C.
- Porcupine Hill Series, note on characters, (80-82) p. 4 B.
on Bow River, near Calgary, (82-84) p. 82 C.
Laramie, age of, note on, (82-84) p. 113 C.
- Porcupine Hills syncline, Bow and Belly Rivers region, Alta., (80-82) p. 3 B.
western edge of, on Bow River, (82-84) p. 108 C.
- Porcupine Knoll, Charlotte Co., N.B., diorites and syenites of, (70-71) p. 51.
- Porcupine Mountain, Charlotte Co., N.B., intrusive syenite of, (70-71) p. 92.
ridge of tawny granite, (70-71) p. 185.
- Porcupine Mts., Man., character of escarpment, timber, streams from, (74-75) p. 60.
Cretaceous shales of Bell River, (74-75) p. 65.
- Porosity of rocks, by T. Sterry Hunt, (63-66) pp. 281-284.
mode of testing, table of results, (63-66) pp. 281-283.
results from dolomite, sandstone and dolomitic limestone, (82-84) pp. 1-3 MM.
- Porphyries, class of rock so described, (1863) p. 645.
as ornamental stones, note on Grenville and Chatham porphyries, (1863) p. 832.
of Grenville, Que., characters and analysis, (1863) p. 654.
of Shin Creek, N.B., colors of, (72-73) p. 229.
note on dykes of, in Upper Copper-bearing rocks of Lake Superior, (1863) p. 72.
- Porphyrite, in drift of Nazco Valley, B.C., indicating extensive deposits in mountains to the west, (75-76) p. 252.

- Porphyrite**—*Cont.*
 from Si-gut-lat Lake, B.C., description of, (76-77) p. 67.
 from South Branch, Ste. Anne River, Que., lithological description of, (82-84) p. 21 F.
 from Tahyesco River, B. C., description of, (76-77) p. 67.
 much altered, on Salmon River, B.C., (76-77) p. 64-65.
 of Stellako River, B.C., (76-77) p. 85.
 microscopic examination of, from British Columbia, (76-77) pp. 66-67.
- Porphyrite Group**, of Tatlayoco Lake region, B.C., general characters, distribution and probable age, (75-76) pp. 250-253.
- Porphyrite Series**, relations of, in western part of America, (76-77) p. 90.
 fossils from, (76-77) p. 61.
 of British Columbia, between Fraser River and Coast range, (76-77) pp. 58-72.
 on Nazco River, B. C., note on occurrence of rocks of, (75-76) p. 252.
 of Salmon or Dean River, B. C., equivalent age, (77-78) p. 173 B.
 thickness of, on Salmon River, B.C., section of, (76-77) p. 63.
 lowest rock of, Salmon River Fall, B. C., (76-77) p. 60.
 underlying fossiliferous series of Tatlayoco Lake, (76-77) p. 54.
- Porphyritic formation** of Chili, referred to, (76-77) p. 90.
- Porphyritic felsites**, of Murdoch Mathesons, near Grand River, Cape Breton, (77-78) p. 10 F.
- Porphyritic gneiss**, on Churchill River, Keewatin, (78-79) p. 17 C.
 west of Okanagan Lake, B. C., (77-78) p. 105 B.
- Porphyritic gypsum**, Amaguadees Pond, N.S., (76-77) p. 445.
 in McKinnon Harbour and Plaster Cove, N.S., (76-77) p. 442.
- Porphyritic melaphyre**, north shore, Michipicoten I., Lake Superior, (63-66) p. 138.
- Porphyritic rocks**, on Skeena River, B. C., (79-80) p. 101 B.
- Porphyritic trachyte**, from Chambly, Que., analysis of, (1863) pp. 657-658.
- Porphyry**, in Cape Breton, N.S., geological position of, (76-77) p. 405.
 pre-Carboniferous rocks on Lake Ardoise road, (76-77) p. 417.
 of Grenville, Que., general note on, (1863) pp. 40-41.
 brick red, Nipigon House, Lake Nipigon, (66-69) E. p. 348, F. p. 385.
 and trap at Salmon Creek, Richmond Co., N.S., (77-78) p. 19 F.
 felsitic and trachytic, Michipicoten I., Lake Superior, (63-66) p. 142.
 felspar in upper part of Nerepis Valley, N.B., (70-71) p. 67.
 grey felspar, at Suspension Bridge, B.C., (71-72) p. 64.
- Porpoise**, note on porpoise fishing in Hudson Bay and at mouth of rivers, (77-78) p. 29 C.
- Portage Brook**, Nipisiguit River, N.B., felspathic pre-Cambrian gneisses, (79-80) p. 30 D.
- Portage Chute**, Churchill River, Keewatin, fall and portage at, (78-79) p. 17 C.
- Portage Formation**, general resumé of characters and distribution, (66-69) E. p. 216, F. p. 238.
- Portage du Fort**, Ottawa River, note on marble from Laurentian of, (1863) p. 822.
 occurrence of iron-ores in Laurentian, (1863) p. 37.
 labradorite rocks at (76-77) p. 261.
 explorations in vicinity, (76-77) p. 279.
 analysis of rensselaërite from, (76-77) p. 484.
- Portage Group**, divisions and distribution of in New York, characteristic fossils of, (1863) p. 381.
 at Kettle Point and Kingstone's Mills, Ont., (63-66) p. 242.
 in western Ontario, wells in, (63-66) p. 244.
 indented outline of outcrop, (63-66) p. 258.
- Portage Lake**, Mich., report on cupriferous rocks of, (63-66) pp. 149-164.
 mines on beds parallel to strike, (63-66) p. 149.
 ash beds and associated rocks, (63-66) p. 149.
 intersecting strata of Keweenaw Point, (63-66) p. 149.
 situation of, (63-66) p. 149.
 description and analysis of rocks in section, (63-66) pp. 150-158.
 general strike of rocks, (63-66) p. 150.
 mineral constituents of highest bed, (63-66) p. 152.
 mines on north side of, (63-66) pp. 152-154.
 output of mines, (63-66) p. 162.
 no testing of refuse of mills, method of dividing land at, (63-66) p. 164.
- Portage-la-Loche**, Atha., vegetation on, fall from Methy Lake to Clearwater River, (75-76) pp. 174-175.
- Portage of Mt. of Rocks**, Peace River, plants found on, (75-76) p. 152.
see Rocky Mountain portage.
- Portage Mountain**, Peace River, named by A. R. C. Selwyn, (75-76) p. 47.
 ascent of, (75-76) p. 64.
 height of, rocks comprising, (75-76) p. 64.
 rocks of, (75-76) p. 74.
- Portage Point**, Peace River, notes by J. Macoun at (75-76) p. 158.
- Portage la Prairie**, Man., slope of country north of, sub-soil, sand containing fresh water shells, (74-75) p. 27.
 island at, surrounded by dried marsh, (74-75) p. 55.
- Portage road**, York Co., N.B., exposures near Boiestown, (66-69) E. p. 186, F. p. 206.

- Portage road, York Co., N.B.—*Cont.*
 Mal Bay to Anse à Brillant, Que., exposures
 of lower beds on, (80-82) p. 10 DD.
- Portages, surveyed by R. Bell 1870, list of dis-
 tances, (70-71) p. 325.
 on Abitibi River, list of, (77-78) p. 35 C.
 on Black River, tributary of Pic River,
 Ont., (70-71) p. 347.
 on Kenogami River, list of, (70-71) p. 341.
 on Little Pic River, Algoma, list of,
 (70-71) p. 348.
 on Missinaibi River, name, length and rise,
 (75-76) pp. 327-331.
 on Pic River and to Long Lake, Algoma,
 (70-71) p. 334.
 between Rat Lake and Clearwater Lake, on
 route from Oxford House to Gods Lake,
 Keewatin, (78-79) p. 30 C.
 on White River, Algoma, list of, (70-71)
 p. 346.
- Port Austin, Mich., note on salt, analysis of
 brines, (66-69) E. p. 220, F. p. 243.
- Port Ban, Inverness Co., N.S., Coal Measures at,
 description of, (82-84) p. 72 H.
- Port Bevis, N.S., note on gypsum deposits with
 analysis of, (75-76) p. 417.
 gypsum or plaster at, (76-77) p. 454.
- Port Burwell, Hudson Strait, situation of,
 description of rocks, (82-84) p. 18 DD.
 note on codfish at, (82-84) p. 20 DD.
 list of crustacea by S. J. Smith, collected
 by R. Bell, (82-84) pp. 57-58 DD.
 list of marine invertebrates collected at,
 (82-84) pp. 58-60 DD.
- Port au Choix, Nfld., contact of Point Rich and
 St. Johns Island limestones, (1863) p. 292.
- Port Colborne, Ont., chert beds of Corniferous,
 note on loose fragments of, (1863) p. 366.
- Port Daniel, Bonaventure Co., Que., section of
 beds exposed east from, fossils of Niagara
 Formation in, (1863) p. 443.
 reference to copper-ores in rocks of (1863)
 p. 734.
 vein of sulphate of baryta referred to,
 (1863) p. 771.
 bituminous shales referred to, specimens for
 Survey lost by shipwreck, (1863) p. 785.
 collections of fossils from, (72-73) p. 3.
 Silurian rocks of, note by E. Billings, on,
 (72-73) p. 3.
 Silurian rocks of, graptolitic slates of, (80-82)
 pp. 14-15 D.
- Port Daniel Bay, Que., note on rocks of, (1863)
 p. 445.
 outliers of Bonaventure Formation near,
 (1863) p. 446.
 small exposures of Lower Carboniferous
 rocks, (80-82) p. 9 D.
- Port Dover, Ont., wood-cut showing columnar
 markings in limestone at, (1863) p. 633.
- Port De Boucherville, Nottingham Island, Hud-
 son Strait, description of rocks, glacia-
 tion, animals and birds, (82-84) pp.
 28-30 DD.
- Port Elgin, Ont., boring for salt, (66-69)
 E. p. 213, F. p. 236.
- Porte de l'Enfer, North Thompson River, B.C.,
 photographs taken, (71-72) p. 46.
 north of Fort Fraser, B.C., elevation of,
 (76-77) p. 51.
- Port Essington, Skeena River, B.C., size of
 village, fisheries, &c., (79-80) p. 5 B.
 situation of village, (79-80) p. 9 B.
 hornblendic granite of, (79-80) p. 101 B.
 glacial grooving below high-tide, (79-80)
 p. 136 B.
- Port Frank, Lake Huron, clay-terrace running
 southward, (1863) p. 901.
 salt-well, works at being erected, (74-75)
 p. 288.
 rock-salt discovered at, (76-77) p. 222.
- Port Frederick, B. C., copper from, (76-77)
 p. 148.
- Port George, N.S., note on minerals in amygda-
 loids of, (82-84) p. 25 L.
- Port Hastings, Inverness Co., N.S., syenite near
 McMillan Point, note on, (79-80) p. 10 F.
- Port Henry, Lake Champlain, N.Y., iron pro-
 duced at, charcoal used, (66-69) E. p. 256,
 F. p. 283.
 ores of iron used in bloomaries, (66-69)
 E. p. 276, F. p. 305.
- Port Hood, N. S., analysis of coal from, (76-77)
 p. 469.
 section on coast from wharf to lighthouse,
 (82-84) p. 56 H.
- Port Hood coal-basin, sections along coast,
 Coal Measures and Carboniferous lime-
 stones, (82-84) pp. 53-61 H.
 note on relation of Millstone Grit to Coal
 Measures, (82-84) p. 53 H.
 note on extension of Coal Measures inland,
 Rutherford's examination, (82-84) p. 61 H.
- Port Hood coal mines, sections in levels, ex-
 penditure on, note on Tremaine's mine,
 (82-84) pp. 87-88 H.
- Port Hood lighthouse to Little Judique Har-
 bour, N.S., section along coast, (82-84)
 pp. 53-56 H.
- Port Hood Map-sheet, part of Inverness Co.,
 N.S., issued 1884, scale 1 m. = 1 in.
- Port Hope, Ont., stratified clay and sand on
 lake shore, (1863) p. 904.
- Port Kuper, Q.C.Is., B. C., sketch made by
 Moore in 1852, referred to, (78-79) p. 13 B.
- Port Laperrière, Digges Island, Hudson
 Strait, description of rocks and natural
 history of, (82-84) pp. 31-33 DD.
- Portneuf Co., Que., for general geology see *Part*
I, p. 10.
- Port Robinson, Welland Canal, Ont., red
 colouring in clay indicates lower part of
 Onondaga, (1863) p. 347.
- Port Simpson to Millbank Sound, B.C., meteoro-
 logical observations taken in 1878,
 (78-79) pp. 229-230 B.

- Port Simpson, B. C., importance of harbour at, (79-80) p. 4 B.
note on rain-fall and climate, (79-80) pp. 6-7 B.
- Port Stanley, Lake Erie, Ont., note on superficial deposits of, (1863) p. 901.
record of wells, (63-66) p. 245.
- Port Talbot, Lake Erie, Ont., note on section of clay deposits, (1863) p. 901.
- PORTER, J. A., work by as assistant to A. P. Low in 1883 in Gaspé, (82-84) pp. 10, and 5-12 F.
- Porter Brook, N.B., Primordial beds, fossils of, list by J. F. Whiteaves, (77-78) p. 30 DD.
- Portland to Victoria, B.C., journal of A. R. C. Selwyn 1871, (71-72) p. 19.
- Portland, St. John, N. B., distribution of upper series of Laurentian, (70-71) p. 36.
- Portland apatite mines of Buckingham Co., Que., (76-77) p. 302.
- Portland Creek, Nfld., exposures of limestone conglomerate, fault, (1863) p. 292.
- Portland Parish, St. John Co., N.B., Huronian rocks of, (70-71) p. 61.
- Portland series of Matthew, characters of, in New Brunswick, (70-71) p. 23.
- Portland Tp., Ont., the higher escarpment of Trenton Group in, (1863) p. 185.
- Portland Tp., Que., apatite localities examined by H. G. Vennor, (73-74) p. 145.
apatite rocks of, (76-77) p. 295.
apatite and plumbago in, (76-77) pp. 302-303.
silver-ore reported from, (76-77) p. 481.
analysis of apatite from Ritchie mine, (77-78) pp. 5-10 H.
analysis and description of apatite from Watt's mine, (77-78) pp. 6, 10 H.
notes on apatite mines and deposits of, (82-84) pp. 5-19 J.
assay of galena for gold and silver from, (82-84) p. 6 MM.
- Portneuf River, Que., breadth of Utica shales on, (1863) p. 203.
cliffs of clay capped by sand near, (66-69) E. p. 310, F. p. 343.
- Portneuf Seignory, Que., exposures of Trenton on Ste. Anne River, (1863) p. 153.
magnetic pyrites from, (63-66) p. 218.
- Poshkokagan River, Chief's Bay, Lake Nipigon, Ont., (66-69) E. p. 346, F. p. 383.
ridge of boulder drift, (66-69) E. p. 354, F. p. 391.
extent of good land, (66-69) E. p. 355, F. p. 393.
salt spring on, (66-69) E. p. 362, F. p. 401.
- Post-Devonian metamorphism in rocks of eastern Quebec, note on, (80-82) pp. 6-7 A.
- Post-glacial denudation of great plains, N.W.T., (82-84) p. 149 C.
- Post-glacial deposits of southern Alberta, moraines, terraces, drainage channels and placer gold deposits, (82-84) pp. 145-152 C.
- Post-glacial elevation or uplift of western region, greater to south, in Alta., (82-84) pp. 150-151 C.
- Post-road, Cumberland Co., N. S., Amherst to Truro, (73-74) p. 162.
- Post's mine, Templeton, Que., note on, (80-82) p. 10 GG.
- Post-Tertiary deposits, of the Goulais River, Ont., (75-76) p. 337.
table of, as found in Ontario and Quebec, (1863) p. 887.
of Saguenay district, Que., (82 84) pp. 16-18 D.
- Post-Tertiary fossils, list of, with references to localities and illustrations of, (1863) pp. 926-928.
wood-cuts of characteristic species, (1863) pp. 963-967.
- Potash, salts of, note on presence of, in mineral waters of Canada, (1863) p. 550.
examination for, in Goderich wells, (76-77) p. 234.
- Potatoes, used by Haida Indians, when introduced in Q.C.Is., (78-79) p. 113 B.
grown at Fort Churchill, note on, (78-79) p. 21 C.
- Potawatamie River, Owen Sound, Ont., exposures of Niagara Formation in, (1863) pp. 328-329.
- Pothier Point, St. Peters Bay, N.S., Devonian rocks, sequence of, (77-78) p. 17 F.
- Pot-hole River, Milk River Ridge, Alta., the Fox Hill sandstone at, (82-84) p. 49 C.
- Pot-holes, near Carp Lake and McLeod Lake, B.C., great depth, (79-80) p. 138 B.
on Gibraltar Rock, Manitoulin Is., Ont., (63-66) p. 177.
gneiss on Ottawa River, (76-77) p. 278.
- Potlatch, or distribution of property among Haida and other Indians of British Columbia, method, occasions, faults atoned by, (78-79) pp. 125-127 B.
among the Tshimsian Indians, (78-79) p. 127 B.
- Potsdam, N.Y., character of sandstone beds at, (1863) p. 87.
- Potsdam Formation, origin of name, position in Palæozoic series, distribution in New York and Canada, fossil remains, littoral origin of, (1863) pp. 87-109.
a shore deposit of Lower Silurian sea, coast line thus established for 3,500 miles, relative levels of points on it given, (1863) pp. 108-109.
note on rocks of, (1863) p. 619.
note on, (63-66) p. 236.
containing grains of apatite where overlying apatite veins, (63-66) p. 229.
in Cape Breton Island, N.S., (76-77) p. 428.
in Renfrew Co., Ont., (76-77) p. 250.
of lower St. Lawrence, synclinal form in, (66-69) E. p. 124, F. p. 139.
- Potsdam Group, general distribution in New York, character of beds, (1863) p. 87.

Potsdam Group—*Cont.*

- organic remains of, with illustrations, (1863) pp. 100-108.
 table showing estimated thickness of, in Strait of Belle Isle and Bonne Bay, Nfld., (1863) p. 879.
 note on marginal outcrop on east side of continent, (1863) p. 294.
 at Belle Isle, Anse aux Sablons similar to Red Sand-rock of Vermont, (1863) p. 287.
 in vicinity of Phillipsburgh, contact with Quebec Group along fault, (1863) pp. 851-852.
 below Quebec, authority for age of, (66-69) E. p. 120, F. p. 134.
 three divisions, general description, (66-69) E. p. 120, F. p. 138
 general description of, (66-69) E. pp. 120-130, F. pp. 134-145.
 fault probable, near St. Gervais, (66-69) E. p. 121, F. p. 136.
 descriptions of outcrops, (66-69) E. pp. 121-130, F. pp. 136-145.
 thickness of, in northern Vermont, near Lake Champlain, (1863) p. 283.
 divisions of, on south side St. Lawrence, (68-69) p. 4 Summ.
 upper division from St. Anne to Trois Pistoles River, Que., (66-69) E. p. 128, F. p. 143.
 middle division near St. Roche and St. Anne, Que., (66-69) E. p. 127, F. p. 141.
 in Woodbridge, Granville, L'Islet du Portage and Bungay, reaching to the Pohenegamook road, (66-69) E. p. 129, F. p. 144.
 lower division, section of near Kamouraska, Que., (66-69) E. p. 125, F. p. 140.
 Rivière Onelle to Kamouraska, (66-69) E. p. 125, F. p. 140.
 fossils in, at St. Roch, Que., (66-69) E. p. 125, F. p. 140.
 in the vicinity of Cacouna, Que., (66-69) E. p. 127, F. p. 141.
 Potsdam conglomerates in vicinity of Hemmingford Mt., Que., (1863) p. 88.
 Potsdam rocks, of Vermont in vicinity of Lake Champlain on east side, (1863) pp. 281-286.
 containing phosphatic nodules, from Macintosh Brook, N.S., (76-77) p. 433.
 Potsdam sandstone, suited in places for furnace hearths, etc., (1863) p. 799.
 character of basal-beds in New York, (1863) p. 87.
 note on hematite of, (73-74) p. 214.
 of Beauharnois, Que., section of beds, woodcuts of tracks on surface, (1863) pp. 104-106.
 section of, at Charleston Lake, Leeds, Ont., (1863) p. 92.
 at Black Lake, North Burgess Tp., Ont., (72-73) p. 165.
 in North Burgess on 7th concession, (71-72) p. 128.
 distribution in valley of the Ottawa, (1863) pp. 94-95.

Potsdam sandstone—*Cont.*

- section of, in Storrington Tp., Ont., (1863) p. 98.
 west of Laurentian ridge crossing at Thousand Islands, Ont., (1863) pp. 97-100.
 Potstone, occurrence of in Bolton and Broughton Tps., Que., reference to analysis of, (1863) p. 799.
 Potter mine, Clementsport, N.S., short description of, (73-74) p. 256.
 Potters Brook, N.S., slope sunk by Lawson for Pictou Mining Co., (66-69) E. p. 45, F. p. 51.
 comparison of coal-seams with Marsh pit group, (66-69) E. p. 46, F. p. 51.
 thickness of black shales west of, (66-69) E. p. 49, F. p. 55.
 fault in Pictou coal-fields, down-throw to south cut by McCulloch fault, (66-69) E. p. 85, F. p. 95.
 Pottery-clay, finer grades not found in Ontario and Quebec, (1863) p. 801.
 for rougher grades, note on, (1863) p. 802.
 found in Quebec, note on, (1863) p. 920.
 of Coxheath and East Bay, N.S., (76-77) p. 456.
 in abundance in Lignite Tertiary rocks of 49th parallel, (79-80) p. 49 A.
 in southern Alberta, note on, (82-84) p. 138 C.
 Pottery works, near Glasgow, N.S., section of Richardson coal-seam at, (66-69) E. p. 47, F. p. 52.
 Potton Tp., Que., serpentine rocks of, minerals of, (1863) p. 248.
 note on felspathic strata, diorites of, (1863) p. 250.
 analysis of steatite from Silurian of, (1863) p. 470.
 partial analysis of chlorite-schist from, (1863) p. 607.
 notes on galena localities near Owl's Head, (1863) p. 691.
 the copper-ores of, note on mode of occurrence, (1863) p. 730.
 copper-pyrites found in, (1863) p. 731.
 silver in galena of Owl's Head, (1863) p. 739.
 workable bed of soapstone noted in, (1863) p. 797.
 copper-ore localities in, (63-66) p. 297.
 quartz-porphyrine from lot 16 R X., microscopic structure of, (80-82) p. 11 A.
 altered diabase from lot 14 and R. VI, lots 12 and 24, R. X., microscopic structure of, (80-82) pp. 12, 13 A.
 felspathic hornblende-schist from Bear Mountain, microscopic structure of, (80-82) p. 16 A.
 microscopic structure of highly felspathic grauwacke from lot 15, R. VIII, (80-82) p. 20 A.
 Pouce Coupé Prairie, Dawson Brook, south of Peace River, Atha., description of, (79-80) p. 49 B.

- Poulament Brook, Madame Island, N.S., (79-80) p. 35 F.
- Poulet Cove, N.S., copper-ore of, referred to, (82-84) p. 95 H.
- POULIN, B. R., information from on geology of Ground Hog Lake, Basin of Moose River, Ont., (80-82) p. 7 C.
- Powder Camp, Whipsaw Creek, B.C., terrace in valley, general description of valley, (77-78) p. 49 B.
- diorites and feldspathic rocks, (77-78) p. 65 B.
- glaciation in valley, (77-78) p. 139 B.
- POWELL, J. W., letter to "The Week" on Canadian Geological Survey, (82-84), p. 26.
- Powell gold mine, Marmora, Ont., deposit traced by H. G. Vennor in 1866, testing of vein, yield of gold, (71-72) p. 140.
- Powell's saw-mill, Moira River, Marmora, Ont., granitic breccia, (66-69) E. p. 147, F. p. 163.
- Power Brook, Ingouish Harbour, N.S., pre-Cambrian rocks of, (82-84) p. 16 H.
- crystalline limestone blocks, (82-84) p. 37 H.
- valley filled with glacial drift, (82-84) p. 77 H.
- Power's lot, N. Burgess, Ont., apatite mined on, mode of occurrence, (70-71) p. 320.
- Powgutchawan Lake, north-east of McKay Lake, Ont., route to, (70-71) p. 332.
- Powitik River, draining from Cross Lake, head of Ombakika River, Ont., (71-72) p. 107.
- green schist with quartz veins, (71-72) p. 108.
- Pownall Bay, P.E.I., anticline probably extending from Spring Hill, N.S., (82-84) p. 16 E.
- probability of finding continuation of Spring-hill coal-seams, (82-84) p. 17 E.
- Pozzuolana, description of method of manufacture, Bolton deposits of carbonate of magnesia suggested as suitable for, (1863) p. 757.
- Practical trials of brick-clay, from Fort Garry, Man., notes by B. J. Harrington, (72-73) pp. 237-239.
- Practical trials of coal, on Glasgow and Cape Breton Ry., (72-73) pp. 270-271.
- from Gowrie mines, N.S., (72-73) p. 283.
- on steam colliers, (72-73) p. 271.
- from Pictou, in gas-making general remarks, (69-69) E. pp. 432-437, F. pp. 482-487.
- locomotive trial of Acadia and Drummond coal, (66-69) E. pp. 398-407, F. pp. 442-451.
- locomotive trial with wood for comparison, (66-69) E. p. 403, F. p. 447.
- American navy trials of, (66-69) E. pp. 410-421, F. pp. 455-469.
- on ocean steamers, (66-69) E. pp. 423-426, F. pp. 472-474.
- Drummond coal on Quebec steamers, (66-69) E. pp. 422-423, F. pp. 470-472.
- method pursued in steamships trials, (66-69) E. p. 396, F. p. 439.
- general remarks on steam trials, (66-69) E. pp. 426-431, F. pp. 475-482.
- steam trial of Acadia coal, (66-69) E. p. 401, F. p. 444.
- Practical trials of coal—*Cont.*
value of practical results, (66-69), E. p. 396, F. p. 439.
- comparison of wood and coal, (66-69) E. p. 405, F. p. 449.
- Prairie, south of Dunvegan, Atha., description of soil, etc., (79-80) p. 51 B.
- west of Smoky River in Peace River district, note on, (79-80) p. 67 B.
- Prairies of North-west Territories, of ancient date from study of trees on margin of, (79-80) p. 42 C.
- of Peace River district, origin of, (79-80) p. 68 B.
- north-west of Edmonton, note on character of, (79-80) p. 87 B.
- Prairie fires, suggestion as to legislation needed, (74-75) p. 56.
- Prairie steppes, of N.W.T., aspect of country on each, river valleys, (74-75) pp. 45-47.
- Pratt Brook, Manners Sutton, N.B., beds above conglomerate, (72-73) p. 186.
- Pre-Cambrian areas in Gaspé Peninsula, metamorphic rocks, overturned anticlinal structure apparent, (82-84) pp. 31-32 E.
- Pre-Cambrian belt through central Quebec. note on probable age, microscopic examinations referred to, (80-82) p. 2 A.
- Pre-Cambrian feldspathic gneiss of Nipisiguit River, N.B., (79-80) pp. 30-31 D.
- Pre-Cambrian formations, A. R. C. Selwyn on new names for local formations, (77-78) p. 13 A.
- Pre-Cambrian limestone of Guysborough and Inverness Cos., N.S., age and distribution of, (79-80) pp. 17-32 F.
- Pre-Cambrian rocks, of Cape Macquereau, Gaspé, Que., (80-82) p. 17 D.
- of Grand Manan Island, N.B., summary of general features, (70-71) p. 112.
- of northern part of Inverness and Victoria Cos., N.S., (82-84) pp. 6-37 H.
- of Kings and Queens Cos., N.B., general statement of extent of, (78-79) pp. 5-6 D.
- north-eastern New Brunswick by R. W. Ellis, (79-80) pp. 29-42 D.
- of southern New Brunswick, divisions of, with description of each, (78-79) pp. 1-6 D.
- of Richmond, Inverness and Guysborough Cos., N.S., (79-80) pp. 4-17 F.
- of Shickshock Mountains, Que., sections on Devils Brook, (82-84) pp. 16-19 F.
- Pre-Carboniferous rocks of Cape Dauphin district, N.S., thickness and character, (74-75) pp. 257-259.
- of area north of Nerepis Hills, N.B., synopsis of three divisions, probable age, (70-71) pp. 190-200.
- of Pictou coal-field, N.S., (66-69) E. pp. 57-58, F. pp. 63-65.
- "Precipice," Pine River, B.C., description of, illustration showing view from, (79-80) facing p. 38 B.

- Precipitation, zone of excessive on west coast, B.C., (79-80) p. 9 B.
- Pre-glacial channel, below Grand Lake, St. Croix River, N.B., (82-84) p. 11 GG.
- of Nelson River evidences of, (78-79) p. 24 C.
- Pre-glacial condition of western plains, (82-84) p. 140 C.
- Pre-glacial river channels in Alberta, crossed by new channels, (82-84) p. 140 C.
- Pre-glacial gravels of British Columbia, gold in, (77-78) p. 141 B.
- Prehnite, found on Lake Superior in amygdaloids, (1863) p. 481.
- found in vein-stones of native copper on Lake Superior, (1863) p. 481.
- occurrence of on Kennebecasis River, N.B., (70-71) p. 239.
- found in Templeton Tp., Que., in apatite beds, analysis of, (77-78) p. 34 G.
- Preliminary report on geology of the Bow and Belly River region, Alta., by G. M. Dawson, (80-82) pp. 1-23 B.
- Prescott, Ont., section of Calcareous limestone near Windmill Point, (1863) pp. 111-112.
- Prescott Co., Ont., for general geology see *Part I*, p. 14.
- Prescott and Ottawa Ry., note on general level of plateau shown by heights on, (1863) p. 8.
- Presentations to Museum, 1872-73, (72-73) p. 2.
- to Library of Geological Survey, 1875-76, (75-76) pp. 22-26.
- of minerals, etc., to Museum, 1883, (82-84) p. 22.
- Pre-Silurian rocks, of Albert, eastern Kings and St. John Cos., N.B., by R. W. Ells, (77-78) pp. 1-13 D.
- of Cape Breton Co., N.S., (77-78) pp. 4-10 F.
- distribution of in Charlotte Co., N.B., (76-77) p. 322.
- of Kings and St. John Cos., N.B., by L. W. Bailey, (77-78) pp. 3-17 DD.
- the schistose group, characters of, (77-78) pp. 17-27 DD.
- in Kings Co., N.B., section of, west of Jones Creek, (77-78) pp. 26-27 DD.
- of New Brunswick, anticlinal structure, lithological characters, descriptions of three anticlines, (77-78) pp. 3-4 D.
- divided into Coldbrook and Coastal Groups, relations of different divisions, (77-78) p. 9 D.
- of southern part of Queens Co., N.B., (77-78) p. 11 D.
- Presqu'île, Mich., serpentine in headland of, referred to, (1863) p. 472.
- analysis of greenstone from Huronian, (1863) p. 595.
- Presqu'île Cove, Madame Island, N.S., felsite breccias with hematite threads and films, (79-80) p. 6 F.
- Preston, Ont., exposures of Guelph Formation noted at, (1863) p. 340.
- Prevost Island, Q.C.Is., B.C., description of east coast, (78-79) p. 15 B.
- dioritic bedded rocks of, underlying Triassic limestones, (78-79) p. 51 B.
- PRICE, THOS., assay of galena from Omineca, B.C., (79-80) p. 111 B.
- Prices Brook, N.B., Kings Co., bituminous shales of, (78-79) p. 16 D.
- Prices of grain and produce at Cariboo, B.C., (71-72) p. 68.
- "Primary" rocks of Black River, N.B., (70-71) p. 20.
- Primeewash Lake, near Okanagan Lake, B.C., area and height of, (77-78) p. 57 B.
- Primordial fossils from Porter and Hanford Brooks, N.B., list of, (77-78) pp. 30-31 DD.
- Primordial or St. John Group in New Brunswick, by L. W. Bailey, (77-78) pp. 28-34 DD.
- Primordial Silurian rocks of southern New Brunswick, general summary of distribution of, (78-79) pp. 6-8 D.
- Prince Albert, Sask., extent of settlement, (73-74) p. 43.
- settlement as in 1875, soil, timber, etc., (75-76) p. 289.
- note on coal in sand of Red Cliff, north side of Saskatchewan River, (75-76) p. 290.
- Prince Co., P.E.I., map of on Buctouche, Charlottetown and North Point Map-sheets, issued in 1884.
- Prince Edward Co., Ont., peninsula composed of Trenton limestone, (1863) p. 186.
- mineral waters of, (1863) pp. 537, 547.
- Prince Edward Island, hematite nodules in Carboniferous or Permian rocks, at Gallas Point, (73-74) pp. 218-219.
- visited by A. R. C. Selwyn in 1874 and iron-deposits of Gallas Point examined, (74-75) p. 8.
- summary of results of exploration by R. W. Ells, 1883, (82-84) pp. 9-10.
- bibliography of geology of, (82-84) p. 4 E.
- report on surveys made and geology of, by R. W. Ells, (82-84) pp. 11-19 E.
- effect of anticlines in Carboniferous of New Brunswick, on rocks of, (82-84) pp. 12-13 E.
- note on probability of coal-seams being found, (82-84) pp. 16-17 E.
- note on economic value of peat deposits, (82-84) p. 19 E.
- examination of conglomerate and sand from, for gold, (82-84) p. 4 MM.
- maps of published in 1884, Buctouche, North Point, and Charlottetown sheets.
- Princes location, Thunder Bay, Ont., gold in ore, result of assay, (66-69) E. p. 357, F. p. 395.
- reference to description, (66-69) E. p. 361, F. p. 399.
- Prince's mine, Lake Superior, green fluor-spar found at, note on, (1863) p. 463.
- arsenate of cobalt at, (1863) p. 505.

- Prince's mine, Lake Superior—*Cont.*
 native silver, other ores found at, (1863) p. 517.
 note on metalliferous veins in vicinity of, (1863) pp. 707-708.
 gold found with silver, (1863) p. 745.
- Princeton, B.C., *see* Vermilion Forks, Similkameen River, (77-78) p. 1 B.
- Princeton, Ont., thickness of clay at, (1863) p. 903.
- Princeville Brook, North Mountain, Inverness, N.S., syenite of, (79-80) p. 16 F.
 exposures of Carboniferous in, (79-80) p. 97 F.
- Prince of Wales mine, Upton, Que., note on copper-ores of, work done at, (1863) p. 713.
- Prince of Wales Sound, Hudson Strait, Stupart Bay, rocks of, glacial striæ, raised beaches, game of vicinity, seal and fish, (82-84) pp. 25-28 DD.
 note on game, reindeer, walrus, seals, etc., (82-84) p. 27 DD.
- Prince William, York Co., N.B., antimony mines, mode of occurrence, (66-69) E. p. 205, F. p. 228.
 note on antimony mines, ore shipped, development, work, etc., (82-84) p. 27 G.
 antimony mines of, statistics for 1869, (71-72) p. 51.
- Prince William Parish, N.B., gravel-ridges in, (77-78) p. 13 EE.
 character of Cambro-Silurian rocks of, (82-84) p. 22 G.
- Prince William Henry Island, Ont., banded red gneiss, (76-77) p. 196.
 position of, (76-77) p. 207.
- Pringle Brook, Sporting Mountain, Richmond Co., N.S., description of felsite series of pre-Cambrian, exposed in, (79-80) p. 8 F.
- Pringle Tp., Ont., exposures of Nipissing road band of limestone, (76-77) p. 206.
- Prinsta Bay, Anticosti, Que., exposures of first division of Anticosti Group in, (1863) p. 308.
- Prizes awarded Survey exhibit, Paris, 1867, (68-69) p. 3 Summ.
- Proctors Lake, Montcalm Tp., Argenteuil, Que., limestone band overlying Grenville band, (1863) p. 44.
- Production of coal, from mines in Cape Breton Island, N.S., (72-73) p. 290.
 in Block House mine, (72-73) p. 281.
 at Caledonia mine, (72-73) p. 263.
 from Emery mine, (73-74) p. 188.
 at Gowrie mines, (72-73) p. 286.
 at International mine, (72-73) pp. 258-259.
 from Lingan mines, (72-73) p. 251.
 from Little Glace Bay mines, (72-72) p. 263.
 L'orway and Emery mines estimated, (72-73) p. 269.
 at New Campbellton coal-mines, (73-74) p. 186.
 at Reserve mine, (72-73) p. 267.
- Production of coal—*Cont.*
 at Schooner Pond mines, (72-73) p. 275.
 of Sydney mines, (72-73) p. 246.
 at Victoria mine, (72-73) p. 256.
- Production of coal in New Brunswick, cost of, (72-73) p. 227.
- Production of iron at St. Francis furnace, Yarmaska Co., Que., (73-74) p. 249.
 at Bay St. Paul furnace, Que., (73-74) p. 250.
 since 1862 at Londonderry, N.S., (73-74) p. 255.
 in United States in 1856, in bloomery furnaces, (66-69) E. p. 275, F. p. 303.
- Production of iron-ore in Canada 1870-1873, (73-74) p. 257.
 at Acadia mines, N.S., (73-74) p. 258.
 at Blairton mines, Belmont, Ont., (73-74) p. 257.
 at Bristol and Hull mines, Que., (73-74) p. 258.
 at Dalhousie iron-mines, Ont., (73-74) p. 258.
 at Fournier mine, South Sherbrooke, Ont. (73-74) p. 258.
 at Haycock iron-mines, Que., (73-74) p. 258.
 at Yankee and Chaffey mines, Ont., (73-74) p. 257.
- Productive coal-measures, horizontal changes in strata, (66-69) E. p. 71, F. p. 79.
 of Comox coal-field, B.C., (72-73) pp. 35-44.
 variable thickness of seams, (72-73) p. 44.
 fossils of, (73-74) pp. 261-264.
 division A., (76-77) pp. 162-168.
 breadth of, (76-77) p. 164.
 thickness of, (76-77) p. 166, 168.
 of Cumberland, N.S., grey sandstone series above, (73-74) p. 166.
 at Nanaimo, B.C., division A., (76-77) pp. 172-185.
 thickness of, (76-77) p. 176.
 in New Brunswick, thickness at Coal Creek, (72-73) p. 207.
 in Pictou Co., N.S., arenaceous measures, east of Mill road fault, (66-69) E. p. 26, F. p. 29.
 west of East River, (66-69) E. pp. 66-85, F. pp. 72-96.
 section at Albion and Acadia mines, (66-69) E. pp. 67-71, F. pp. 75-79.
 McLellan's Brook, section of McKay coal-seam, (66-69) E. p. 15, F. p. 17.
 greenish conglomerates in section of, (66-69) E. p. 34, F. p. 38.
 description of, (66-69) E. pp. 15-51, F. pp. 17-57.
 division A., section 1, (66-69) E. p. 17, F. p. 18.
 division B., section 2, (66-69) E. p. 17, F. p. 19.
 section 4, (66-69) E. p. 23, F. p. 26.
 section 5, (66-69) E. p. 24, F. p. 27.
 section 6, (66-69) E. p. 30, F. p. 34.
 section 8, (66-69) E. p. 35, F. p. 39.
 section 3, (66-69) E. p. 19, F. p. 21.
 division C., section 7, (66-69) E. p. 31, F. p. 35.
 section 9, (66-69) E. p. 37, F. p. 41.

- Productive coal-measures—*Cont.*
of Sydney coal-fields, N.S., note on, J. W. Dawson's estimate of varying thickness, (73-74) p. 177.
- Productive coal-seams in Pictou, N.S., divisions and sections, (66-69) E. p. 16, F. p. 18
- Productus*, sp., notes on specimens from Fossil Point, Peace River, (75-76) p. 101.
- Productus*, wood-cut of small undetermined species, (1863) p. 368.
- Productus dissimilis*, Hall, notes on specimens from lower part of Athabasca River, (75-76) p. 104.
- Proetus Alaricus*, Billings, wood-cut of, (1863) p. 219
- Profits of mining, comparison between Nova Scotia and Australia, (70-71) p. 281.
- Prometopia depilis*, Scudder, description of, from Tertiary of Quesnel, B.C., (75-76) p. 278.
- Property in land, Haida Indians, note on, (78-79) pp. 117-118 B.
- Prospect Creek, north of Tatlayoco Lake, B.C., confused and broken strata, gold found in drift, (75-76) p. 251.
- gold on, referred to, (76-77) p. 143.
- Prospecting in New Brunswick for gold, (66-69) E. p. 208, F. p. 231.
- Prosser Brook, N. B., distribution of Albert shales, (76-77) p. 362.
- Protection Island, Nanaimo Harbour, B.C., sandstones, &c., (71-72) p. 84.
- small seams of coal on, (73-74) p. 99.
- list of fossils from, (73-74) p. 263.
- section at, (76-77) p. 172.
- Protichnites*, descriptive label in museum, (74-75) p. 10.
- note on discovery of, at Beauharnois, Que., general description and discussion on, (1863) pp. 102-105.
- occurrence of, in Potsdam sandstone near Beauharnois, Que., (1863) p. 90.
- wood-cuts of six varieties from Beauharnois, (1863) p. 104.
- Protococcus nivalis*, (Linn.), on Tsi-tsutl Range, B.C., (76-77) p. 34.
- Prototaxites Logani*, Dawson, found in section at Douglastown, Gaspé, Que., (1863) p. 399.
- wood-cuts of enlarged sections of, (1863) p. 401.
- Providence spring, St. Hyacinth, Que., character of water, (1863) p. 544.
- Province-line, between Quebec and Vermont, section at Phillipsburg, Que., description of, (1863) p. 279.
- additional notes on, (1863) p. 846.
- east of Lake Champlain, diagrammatic section of rocks along, (1863) Atlas.
- Proximate analyses of coals and lignites of N.W.T., tables showing, (82-84) facing p. 44 M.
- Prudhomme's mine, Hull, location of, openings made, (82-84) p. 16 L.
- Prunus Americana*, Marshall, northern limit of, in Canada, (79-80) p. 54 C.
- Prunus Pennsylvanica*, Linn., range of, in Canada, (79-80) p. 54 C.
- Prunus serotina*, Ehrh., note on occurrence of, in Canada, (79-80) p. 54 C.
- Psammodus*, teeth of, in rocks of Scott Brook, Richmond C., N.S., (79-80) p. 63 F.
- Pseudomorphs of asbestos after pyroxene, Grant mine, Buckingham, Que., (77-78) p. 23 G.
- Pseudomorphism in pyroxene, urallite and hornblende, (77-78) p. 23 G.
- in wilsonite and giesekite, (1863) p. 483.
- Pseudotsuga Douglasii*, Lindl., note on range of in British Columbia, lumber and timber supply from, (79-80) pp. 168-169 B.
- Psilophyton princeps*, Dawson, wood-cuts of, (1863) pp. 397-398.
- Ptarmigan Hill, near International boundary southern British Columbia porphyries of, (82-84) p. 14 B.
- Pteropera* sp., notes on specimen from Itlas-youco River, B.C., (76-77) p. 153.
- Ptilodictya acuta*, Hall, wood-cut of, (1863) p. 158.
- Ptilodictya recta*, Hall, wood-cut of, (1863) p. 158.
- Publications of survey up to 1870, list of, (70-71) p. 12.
- distributed during 1874-75, (74-75) p. 16.
- distributed during 1875-76, (75-76) p. 6.
- Puffin bills used as ornaments by Haida Indians, see plate X, (78-79) p. 137 B.
- Puget Sound, B.C., coal-bearing rocks of, (76-77) p. 125.
- Pugh and Wert's mine, Buckingham, Que., plumbago mined, (73-74) p. 143.
- PUMPELLY, PROF., opinion on age of copper-bearing rocks, Lake Superior, (77-78) p. 9 A.
- Pumice, calcified on Nechacco River, B.C., (76-77) p. 72.
- from near Tsa-cha Lake, B.C., (76-77) p. 79
- Pumps employed in Cariboo Mines, B.C., (76-77) p. 111.
- Punchaw Lake, west of Fort George, B.C., description of, (75-76) p. 244.
- Puntledge River, Vancouver Island, B.C., section of coal-seams at, (71-72) p. 77.
- thickness of coal measures, div. A., (72-73) p. 37.
- crystalline rocks at outlet of lake, (72-73) p. 37.
- lower shales on, fossils of, (72-73) p. 44.
- Puntzee Lake, B.C., description of, and of trail north and south, (75-76) p. 240.
- rounded boulders of basalt, (75-76) p. 262.

- Purdy's farm, Portland Tp., Que., the third escarpment of the Trenton Group at, (1863) p. 185.
- Purifying salt, methods used in Syracuse, N.Y., (66-69) E. p. 227, F. p. 250.
- Purifying salt-brines, notes on, (63-66) p. 265.
- Purifying ores, use of fluxes and magnetic separation, (66-69) E. p. 286, F. p. 316.
- Purity of salt from Goderich well, Ont., (63-66) p. 269.
- Purity of Goderich brines, Dr. Goessmann quoted, (66-69) E. p. 226, F. p. 249.
- Purple copper-ore, percentage of copper in, (1863) p. 692.
- Purple and grey sandstones of coast west of Musquash Harbour, N.B., (78-79) pp. 11-12 D.
- Purvis seam, Acadia mines, Pictou, N.S., (66-69) E. p. 69, F. p. 76.
- outcrops westward, (66-69) E. p. 76, F. p. 84.
- Puslinch, Ont., examination of dolomite from Howitt's quarry, (1863) p. 624.
- Puslinch Tp., Ont., exposures of Guelph Formation in, (1863) p. 337.
- Pygidia of *Dikelocephalus*, wood-cut of, (1863) p. 237.
- Pyralloolite, occurrences of in Ontario and Quebec, analyses of, (1863) p. 470.
- characters and uses of, occurrences of in Grenville, Que., and Ramsay Tp., Ont., (1863) p. 798.
- general note on occurrence of in Laurentian, (1863) p. 23, and (63-66) p. 207.
- limestone with, in Thorne Tp., Que., (76-77) p. 293.
- steatite having characters of in Ottawa Co., Que., (77-78) p. 33 G.
- Pyramid Creek, International boundary, Assa., character and section of beds, fossil shells, (79-80) pp. 25-27 A.
- section of rocks in, (79-80) pp. 26-27 A.
- Pyramid Lake, Brush Creek, Thunder Bay District, Ont., edge of Huronian area, (72-73) p. 99.
- Pyrites, arsenical, *see* Mispickel.
- Pyrites, cobaltiferous, occurrence of at Elizabethtown, near Brockville, Ont., (1863) p. 506.
- cost of extracting cobalt from deposit of at Elizabethtown, Ont., (1863) p. 750.
- Pyrites, copper, percentage of copper in pure forms of, (1863) p. 692.
- at Burnt Harbour, Lake Superior, (76-77) p. 219.
- veins of at Gros Cap, Lake Superior, (76-77) p. 220.
- at Slobie's slate location, near Echo Lake, Ont., (76-77) p. 210.
- at Victoria mine, Garden River, Ont., (76-77) p. 212.
- Pyrites, iron, general note on occurrence of in Laurentian, (1863) p. 26.
- description, uses in chemical manufactures, localities of occurrence, (1863) pp. 746-748.
- of Cap Choyé, Lake Superior, (76-77) p. 219.
- note on occurrence of on East Main coast, Hudson Bay, (77-78) p. 22 C.
- at Fairy Lake, near Victoria mine, Ont., (76-77) p. 212.
- in vicinity of Garden River, Ont., (76-77) p. 211.
- near Gaspereaux Station, N.B., (76-77) p. 329.
- veins of, at Gros Cap, Lake Superior, (76-77) p. 220.
- in McKenzie Tp., Ont., (76-77) p. 206.
- on Meganatawan River, Ont., (76-77) p. 202.
- note on occurrence of in Ontario and Quebec, (1863) p. 513.
- at Roberts Bay, Ont., (76-77) p. 207.
- on Stobies slate location, near Echo Lake, Ont., (76-77) p. 210.
- at Victoria mine, Garden River, Ont., (76-77) pp. 212-213.
- in apatite, Buckingham Tp., Que., (76-77) p. 305.
- occurrence of, in apatite-bearing beds, Ottawa Co., (77-78) p. 36 G.
- occurring with hematite, note on localities, (73-74) p. 222.
- with magnetite, occurrence of at Big Ore Bed, Belmont, Ont., (73-74) p. 204.
- with magnetite, occurrence of at Bristol mines, Baldwin mines, Fournier mine, Matthews mine, Christie Lake mine, and at Seymour ore-bed, Madoc, Ont., (73-74) p. 203.
- Pyrites, magnetic, note on occurrence of in Ontario and Quebec, (1863) p. 514.
- Pyrites, assays and analyses:—
- from Canso road, near Canso, Guysborough Co., N.S., assay for gold and silver, (80-82) p. 13 H.
- from Fire-steel Rapid, Mattagami River, Ont., assay of, (78-79) p. 21 H.
- from Gillen mine, Marmora, Ont., assay for gold, (71-72) p. 137.
- from Londonderry, N.S., analysis of, (74-75) p. 316.
- from near Marble Island, Hudson Bay, assay of, (78-79) p. 23 H.
- from St. Jerome, Que., assay of, (76-77) p. 482.
- Pyritous band in Lingan mines, N.S., (72-73) p. 249.
- Pyritous limestone from Black Whale Harbour, assay, (78-79) p. 21 H.
- Pyrolusite, in veins of rocks on Amherst Island, Magdalen Islands, (79-80) p. 4 G.
- reported in Cape Breton, N.S., (76-77) p. 450.
- from Loch Lomond, N.S., analysis of, (80-82) p. 12 H.
- Pyrophyllite, analysis of from Carboniferous conglomerate of New Brunswick, (72-73) p. 300.

Pyrosclerite, generally found in serpentine, classed with chlorites, (1863) p. 488.

Pyroschists, of Bosanquet Tp., Ont., analysis of, (1863) p. 627.

of Collingwood and Kettle Point, Ont., petroleum obtained from, (1863) p. 528.

from Lake Huron, Ste. Anne de Montmorency, and Gloucester, analyses of, (1863) p. 622.

see also Bituminous shales.

Pyroxene, description of varieties, with analyses of, localities of occurrence, (1863) pp. 467-468.

general note on occurrence of in Laurentian, (1863) p. 25.

on occurrence in veins, in Laurentian, (63-66) p. 207.

of crystalline rocks, note on associated minerals, (1863) p. 646.

in apatite deposits, crystallography of, analysis, and varieties found, (77-78) pp. 17-19 G.

from Bathurst, Ont., analysis of, (77-78) p. 23 G.

aluminous, from Grenville mica-mine, characters and analysis of, (74-75) pp. 301-302.

of Parry Sound, Ont., (76-77) p. 204.

of Roberts Bay, Ont., in crystals in limestone, (76-77) p. 207.

from Templeton, Que., analysis of, (77-78) pp. 17, 21-22 G.

occurring with hematite, at Haycock mine, Que., (73-74) p. 222.

with magnetite, examples of occurrence of, (73-74) p. 204.

Pyroxene crystals, at Dolan's Lake, N.B., (70-71) p. 238.

of Hagerman Tp., Ont., (76-77) p. 204.

of lot 9, R. XIII., Hull, green terminated, (82-84) p. 20 L.

of North Burgess, terminated, (63-66) p. 228.

forms found in Ottawa region, varieties of coloured pyroxene, (77-78) p. 18 G.

Pyroxene rocks of the Laurentian System, general note on, (1863) p. 590.

Pyroxenic gneiss of North Burgess, Ont., (73-74) p. 112.

Pyroxenites of Laurentian limestones, (63-66) p. 185.

from Madoc, Ont., (63-66) p. 95.

of Mount Royal, Que., note on occurrence of with dolerites of, (1863) p. 667.

of North Burgess Tp., Ont., (63-66) p. 224.

analysis of, (1863) p. 492.

Pyrrhotite, from Elizabethtown, Ont., and the minerals associated with it, (74-75) pp. 304-306.

description, with illustration and analyses of, (74-75) p. 306.

with magnetite at Marsh ore-bed, Hastings, Ont., (73-74) p. 204.

occurrence of on Middle Branch of the Magdalen River, Gaspé, (82-84) p. 21 F.

of copper-mines, Mascarene Peninsula, N.B., (70-71) p. 223.

Pyrrhotite—Cont.

occurrence of in apatite deposits, Ottawa Co., (77-78) p. 36 G.

from Pie Island, Lake Superior, nickel and cobalt in, (80-82) p. 15 H.

from near St. Stephen, N.B., Thompson's farm, nickel and cobalt in, (80-82) p. 16 H.

vein of on rock near Scottish Island, Lake of the Woods, (82-84) p. 17 K.

from Sutton Tp., Que., R. XI., partial analysis of, (79-80) p. 21 H.

at Welshpool, Campo Bello Island, N.B., (70-71) p. 132.

Pyrus Americana, DeCew, note on range of in Canada, (79-80) p. 54 C.

Quaco, N.B., Huronian rocks north of, (70-71) p. 64.

Lower Carboniferous strata exposed on coast, (70-71) p. 210.

area of Triassic, New Red Sandstone, (70-71) p. 217.

Triassic rocks of, and contact with Lower Carboniferous, (78-79) p. 22 D.

coloured geological section from, to Belleisle Bay, (78-79) accompanying Part D.

Quaco Head, N.B., deposit of manganese-ore, preparations for mining, (78-79) pp. 18-24 D.

Quaco Hills, N.B., topographical situation, (70-71) p. 17.

Quaco light-house, N.B., Lower Carboniferous sandstones, conglomerates, fossils of, (70-71) p. 211.

Quaco road, pre-Silurian rocks on, (77-78) p. 12 DD.

Qualcho Lake, B.C., general description of, (76-77) p. 38.

Qualicum River, Vancouver Island, B.C., water-power of, (73-74) p. 101.

rocks exposed on, (76-77) p. 165.

to Alberni, crystalline rocks exposed, (72-73) pp. 52-56.

Quality of coal mined at Barasois mines, N.S., (72-73) p. 252.

from Block House mine, N.S., (72-73) p. 277.

from Bridgeport mine, N.S., (72-73) p. 252.

from Gardiner mine, N.S., (72-73) p. 274.

from Gowrie mines, N.S., (72-73) p. 283.

in harbour seam, International mine, N.S., (72-73) p. 257.

in Inverness coal-field, N.S., Broad Cove, (73-74) p. 183.

mined at Lingan mines, N.S., (72-73) p. 248.

from Lower Glace Bay mines, N.S., (72-73) p. 260.

from Lorway and Emery areas, N.S., (72-73) p. 268.

New Campbellton coal-mines, N.S., (73-74) p. 185.

from Ross seam, Schooner Pond mines, N.S., (72-73) p. 276.

mined at Sydney mines, N.S., (72-73) p. 243.

from Victoria mines, N.S., (72-73) p. 253.

- Quality of iron, produced at Londonderry furnace, N.S., analysis of iron, (73-74) p. 255.
produced in Woodstock furnace, N.B., (73-74) p. 252.
- Quality of fuels of coal and lignite seams of Alberta, reference to report on, (82-84) p. 129 C.
- Quality of lignite from Dirt Hills, Assa., reference to analyses, (73-74) p. 78.
- Quanchus Range, B.C., seen from Tsi-tsutl Mt., (76-77) p. 32.
- Quantity of coal estimated in Grand Lake basin, N.B., (78-79) p. 20 D.
at New Campbellton mines, N.S., (73-74) p. 185.
- Quantity of fuel in coal seams of Southern Alberta, (82-84) pp. 127-129 C.
- Qu'Appelle or Fishing Lakes, Assa., description of valley, length of lakes, terraces, (73-74) p. 72.
- Qu'Appelle or Calling River, Assa., exploration by R. Bell, 1873, route followed, general character of country, (73-74) pp. 70-75.
geological notes, (73-74) pp. 83-84.
character of sand-hill region, (73-74) p. 73.
abundance of Huronian boulders in drift, (74-75) p. 42.
antiquity of valley and how caused, (74-75) pp. 44-47.
to Touchwood Hills, character of surface of country, (73-74) p. 81.
- Quarries, at Clifton, N.B., description of, (79-80) p. 6 D.
marble, in Bristol Tp., Que., (76-77) p. 292.
marble, at Marble Mountain, N.S., (77-78) p. 31 F.
plaster, at Big Harbour and Island Point, N.S., (76-77) p. 445.
- Quarry seam, Sydney Harbour, N.S., section of, (74-75) p. 233.
- Quartz, general note on distribution of in rocks, varieties of, localities, etc., (1863) p. 500.
with hematite, note on occurrences of, (73-74) p. 223.
with magnetite, effect on smelting, (73-74) p. 204.
in veinstones of Laurentian, (63-66) p. 213.
from Aubin-Delisle Seigniory, Que., (63-66) p. 74.
of Bouldermine, vicinity of Garden River, Ont., (76-77) p. 211.
of vicinity of Cape Choyé, Lake Superior, (76-77) p. 219.
of Hagerman Tp., Ont., (76-77) p. 204.
of Little Lake George, north of Georgian Bay, Ont., (76-77) p. 212.
on McDame Creek, B.C., containing gold, silver and copper, (76-77) p. 117.
of McDougall Tp., Ont., (76-77) p. 204.
of Montreal River, Ont., (76-77) p. 217.
of Moose Deer Point, Ont., (76-77) p. 198.
of Ottawa Co., Que., varieties of in apatite deposits, (77-78) p. 16 G.
on island in Parry Sound, Ont., (76-77) p. 200.
- Quartz—*Cont.*
of Parry Sound, Ont., (76-77) p. 199.
of Partridge Bay, Parry Sound, (76-77) p. 197.
of Pointe aux Mines, Lake Superior, (76-77) pp. 214-215.
of Shibaonaning, Ont., (76-77) p. 208.
general occurrence in Southern New Brunswick, (70-71) p. 240.
of Victoria mine near Garden River, Ont., (76-77) pp. 212-213.
assays of, from the following localities:—
Cariboo, B.C., for gold and silver, (77-78) p. 49 G.
Champion Ledge, Omineca, B.C., (78-79) p. 24 H.
Charley Lake road, Canterbury Parish N.B., (79-80) p. 19 H.
Cherry Creek, B.C., (77-78) p. 50 G.
Cinnemousun Narrows, B.C., rusty, (77-78) p. 50 G.
Douglas Portage, B.C., for gold and silver, (78-79) p. 24 H.
near Fort Churchill, (78-79) pp. 21-22 H.
Gnarled Islands, B.C., for silver, (78-79) p. 24 H.
Gods and Island Lakes, (78-79) p. 21 H.
Long Island, Hudson Bay, (78-79) p. 20 H.
from island 12 miles, south-east of Rat Portage, Ont., for gold and silver, (78-79) p. 23 H.
near Richmond Gulf, Hudson Bay, (78-79) p. 20 H.
Victoria gold mine, Hastings Co., for gold and silver, (82-84) pp. 6-7 MM.
Wakefield, Que., for gold and silver, (78-79) p. 19 H.
- Quartz crystals, in copper-ore at Harvey Hill mine, Que., (1863) p. 729.
of Little Whale River, transparent, (77-78) p. 23 C.
in Roberts Bay band, crystalline limestone, (76-77) p. 207.
at Washaback, N.S., (76-77) p. 406.
- Quartz Creek, B.C., situation of gold workings on, (76-77) p. 139.
silver-ore from, (76-77) p. 147.
- Quartz crushing, note on new process, (63-66) p. 80.
- Quartz-felsite, L'Ardoise road, N.S., (76-77) p. 418.
of Snake Brook, N.S., (76-77) p. 422.
- Quartz-free porphyry from Shefford Tp., Que., lot 24, R. III., microscopic structure of, (80-82) p. 10 A.
- Quartz mining, prospects for, in Cariboo, B.C., (76-77) p. 115.
- Quartz-porphyrity, from Potton Tp., Que., lot 16, range X., microscopic structure of (80-82) p. 11 A.
- Quartz-rock, vitreous, on Manicougan River, Que., (66-69) E. p. 306, F. p. 338.
on coast east of Papinachois River, Que., (66-69) E. p. 306, F. p. 338.

Quartz-schist, feldspathic, from Melbourne Tp., Que., lot 6, R. VIII., microscopic structure of, (80-82) p. 23 A.

Quartz-veins of Beaver Brook, N.S., (76-77) p. 407.

Cariboo District, B.C., principal localities, (76-77) p. 138.

on east branch of Montreal River, Ont., (75-76) p. 301.

carrying gold in Eastern Townships, Que., (63-66) p. 69.

nature of, in Eastern Townships, Que., (63-66) p. 85.

of Echo Lake, Ont., (76-77) p. 210.

at Goldstream, B.C., (76-77) p. 96.

of Gros Cap, Lake Superior, (76-77) p. 220.

in Huronian on Brush Creek, Seine River, Ont., (72-73) p. 98.

in Huronian of Island Lake, Keewatin, east side, (78-79) p. 38 C.

at Leech River, B.C., (76-77) p. 99.

of North River, St. Annes, N.S., (76-77) pp. 428, 452.

on Pembina Lake, Ont., (72-73) p. 97.

of Rankin copper mine, near Garden River, Ont., (76-77) p. 212.

at Rat Portage, Ont., examination of, (72-73) p. 105.

examined by A. Michel in Vaudreuil Seignory, Que., (63-66) pp. 71-74.

of Washaback, N.S., (76-77) p. 406.

Quartziferous felsites, of Catalogne road, N.S., (77-78) p. 8 F.

Quartziferous porphyry of Grenville, Que., characters of, with analysis, (1863) p. 654.

Quartzite, for building stones, St. Lawrence below Quebec, (66-69) E p. 140, F. p. 157. of Huronian series, general note on, (1863) p. 594.

in Laurentian system, note on, (1863) pp. 23, 587.

of Silley Formation, note on, (1863) p. 598.

Cape Choyé, Lake Superior, (76-77) p. 219.

of Cape Porcupine, Strait of Canso, N.S., (79-80) p. 9 F.

of Churchill River, attitude of beds, age of formation, (78-79) p. 19 C.

from Falcon Lake, near Lake of the Woods, Ont., assay, (78-79) p. 21 H.

Garden River, Ont., Huronian, (76-77) p. 211.

east of Lake Superior, Huronian, (63-66) p. 127.

of Lake Temiscaming, in Huronian of, thickness, (1863) p. 51.

of Les Ecorchés, Murray Bay, Que., supposed to be Potsdam, foot-note giving Dawson's determination of as Laurentian, (1863) p. 96.

at Little Lake George, north of Lake Huron, Ont. (76-77) p. 212.

of Loch Lomond and Grand River, N.S., (77-78) p. 20 F.

micaceous, Magaguadvic district in New Brunswick, (70-71) p. 57.

of Manitoulin Island, Ont., for glass making, (63-66) p. 178.

Quartzite—*Cont.*

Huronian, referred to, (76-77) p. 210.

of Marble Island, Hudson Bay, (82-84) p. 35 DD.

of Marmora Tp., Ont., (63-66) p. 93.

south of McDonald's house, Picton, N.S., greenish, (66-69) E. p. 6, F. p. 6.

of Ottawa Co., Que., greenish, (76-77) p. 286.

of apatite-bearing rocks of, (77-78) p. 3 G.

of Picton coal fields, N.S., McLellan's Mountain and McPherson's mills, (66-69) E. p. 6, F. p. 6.

of pre-Carboniferous rocks, (66-69) E. p. 57, F. p. 63.

of Ross Tp., Ont., with garnets, (76-77) p. 266.

of Rutherford Tp., Ont., (76-77) p. 209.

Shibaonaning, Ont., in Huronian, (76-77) p. 208.

of Thessalon River, Ont., in Huronian, thickness of in section, (1863) pp. 55-56.

near Victoria mine, Ont., (76-77) p. 211.

of Woods Lake, St. John Co., N.B., greenish, Huronian, (70-71) p. 64.

Quartzite drift, north of Fort Pitt and west of Green Lake, Sask., notes on, (82-84) pp. 28-29 CC.

of Tsa-whuz and Fort George, B.C., (75-76) p. 264.

near McLeod Lake, B.C., origin of, (79-80) p. 138 B.

on plains of N.W.T., extent and origin of, (74-75) p. 41.

underlying boulder-clay on St. Mary River, Alta., (82-84) p. 60 C.

Quartzite shingle, below boulder-clay of southern Alberta, distribution, exposures of, origin of, (82-84) pp. 140-143 C.

irregularity of distribution, (82-84) p. 142 C.

diagrammatic section showing relation to boulder-clay at Wolf Island, Belly River, Alta., (82-84) facing p. 144 C.

Quatre Fourches, Ottawa River, low-land, potatoes and turnips grown, origin of name, (75-76) p. 165.

Quatre Fourches River, Ont., Laurentian rocks on, (75-76) p. 90.

currents, muddy banks, (75-76) pp. 163-164.

Quatsino, Vancouver Island, B.C., coal at, note by Mr. R. Brown, (76-77) p. 124.

Quatsino Sound, Vancouver Island, B.C., fossils of Tertiary age, (73-74) p. 265.

visited by G. M. Dawson in 1878, (78-79) p. 1 B.

Quebec, Hudson River rocks in rear of, breadth of, fault, (1863) p. 201.

Lévis rocks in cliff at, synclinal form in rocks, conglomerate bands black shales and limestones, (1863) p. 230.

fluor-spar recorded, from near citadel, (1863) p. 463.

galena in veins in rocks of, note on, (1863) p. 516.

Quebec, —*Cont.*

- coal-like matter, anthraxolite, in rocks at, attempts at working, (1863) p. 525.
 sulphurous spring, note on, (1863) p. 541.
 vitreous copper-ore found in, (1863) p. 721.
 manganese deposits near city on St. Louis road, (1863) p. 752.
 analysis of limestone used in manufacture of hydraulic lime, (1863) p. 805.
 gneiss of St. Charles River used in building, (1863) p. 812.
 course of great fault to, (1863) p. 234.
 longitude of, (1863) p. 9 Atlas.
 copper-ore locality near, (63-66) p. 321.
- Quebec Province, table of rock formations compared with Great Britain and United States, (1863) p. 932.
 note on comparative table of formations, (1863) p. 934.
 map showing distribution of superficial deposits of, (1863) Atlas.
 summary of work in 1869 by W. McOuat and A. Webster, (69-70) pp. 7-8 Summ.
 records of mines and mineral statistics for 1869-1874, (71-72) p. 148.
 blast-furnaces in, (73-74) pp. 246-251.
 note on manufacture of steel, description of process, (73-74) p. 256.
 progress of work in 1876, (76-77) p. 3.
 summary of work by Geological Survey in phosphate areas of, during 1877-78, (77-78) p. 6.
 summary of explorations in, during 1879, (78-79) pp. 3-4.
 surveys undertaken by Geological Survey during 1880 in, (79-80) pp. 3-6.
 explorations in, during 1881, by Geological Survey, (80-82) p. 5.
 summary of explorations in Gaspé by R. W. Ellis in 1882, (80-82) p. 19.
 notes on geology of south-eastern portion of, (80-82) p. 1-7 A.
 list of localities where 'colors' of gold have been found in drift, (80-82) pp. 3-4 A.
 notes on mines of, by C. W. Willimott, (80-82) pp. 1-14 GG.
 notes on mines in, (82-84) pp. 16-20 L.
for geology of several Counties of see Part I., pp. 7-11.

Quebec Co., Que., *for general geology see Part I., p. 10.*

'Quebec diamonds,' note on mode of occurrence of, localities, (1863) pp. 500, 832.

Quebec gold-fields, notes and observations by A. R. C. Selwyn, (70-71) pp. 252-282.

Quebec Group, note on, various views on relations of, up to 1863, (1863) p. vii-viii.
 general description of, details and sections, fossils, (1863) pp. 225-297.
 wood-cuts of fossils of, (1863) pp. 226-286.
 thickness of, list of fossils, age of group, (1863) pp. 232-234.
 great dislocation of, with section of supposed structure, (1863) pp. 233-234.
 lower shales of, probably of Potsdam age, position in series, (1863) pp. 234-235.

Quebec Group—*Cont.*

- on Lake Superior, Upper Copper-bearing rocks, supposed to be of that age, (1863) p. 236.
 a metalliferous formation correlated with copper-bearing rocks of Lake Superior, (1863) p. 236.
 altered rocks of, near Shipton and St. Armand anticline, (1863) p. 245.
 lower shales of, exposed in Gaspé, (1863) p. 266.
 lower shales of, represented in Cape Rosier section, (1863) p. 271.
 of west coast of Newfoundland, section along coast, (1863) pp. 288-293.
 note on conditions of deposit, elevation and subsidence of continent, (1863) p. 294.
 extent of, general note on, (1863) p. 294.
 ideal section of, diagram showing, (1863) p. 296.
 results of lateral pressure from south-east seen in anticlinal folds of, (1863) p. 297.
 on Matapedia Lake, Que., (1863) p. 414.
 basal beds seen on Lake Temiscouata, Que., (1863) p. 420.
 altered rocks of, general description, (1863) p. 597.
 on Lake Superior, notes on copper-ores in rocks supposed to be of same age, (1863) p. 698.
 distribution of, short descriptive note, (1863) p. 709.
 three chief folds of, note introducing copper deposits of, (1863) p. 709.
 the serpentines of, with localities, (1863) pp. 824-827.
 additional information relative to distribution of, (1863) pp. 844-880.
 estimate of thickness exposed on Strait of Belle Isle and Table Head, Nfld., (1863) p. 864.
 on Dartmouth River, Gaspé, below Gaspé limestones, (1863) p. 882.
 list of *Graptolitidae* of, (1863) p. 955.
 plan and section of limestone-conglomerate bands at Point Lévis, (1863) Atlas.
 black shales at base of, (63-66) p. 4.
 three divisions of, (63-66) p. 4.
 summary of extent, (63-66) p. 4.
 examination of rocks of, by James Richardson, (63-66) p. 29.
 resumé of subdivisions, (63-66) p. 30.
 Lévis division, (63-66) pp. 31-32.
 copper-bearing formations in, (63-66) p. 31.
 lower copper-bearing formation of, (63-66) p. 32.
 Sillery division, (63-66) p. 36.
 chromium characterizing beds, (63-66) p. 42.
 beds of coal altered to graphite, (63-66) p. 221.
 note on, by T. Sterry Hunt, (63-66) p. 236.
 bituminous matter in veins, (63-66) p. 262.
 list of copper-ore localities, (63-66) pp. 295-321.
 of lower St. Lawrence, Lévis to Trois Pistoles River, (66-69) E. pp. 130-138, F. pp. 143-155.

Quebec Group—*Cont.*

- work by James Richardson for 1867-68 on rocks of, (68-69) p. 4 Summ.
 character of change in rocks to the north-east, (68-69) p. 5 Summ.
 in New Brunswick, in H. Y. Hind's report of 1865, (70-71) p. 27.
 notes on occurrence of hematite in rocks of, (73-74) p. 214.
 relations of, note by A. R. C. Selwyn, (76-77) p. 4.
 rocks in British Columbia resembling, (76-77) p. 89.
 subdivisions of, by W. E. Logan, proposed new divisions, (77-78) p. 3 A.
 stratigraphy of, by A. R. C. Selwyn, (77-78) p. 1-9 A.
 copper-deposits belonging to two periods, (77-78) p. 8 A.
 notes on microscopic structure of some rocks of, by F. D. Adams, (80-82) pp. 8-23 A.
 report on re-arrangement of, in Gaspé, Lévis division, found above Sillery division (80-82) pp. 16-31 DD.
 distribution of in Gaspé, references to reports on (80-82) p. 16 DD.
 rocks at Cape Macquereau sub-divided into pre-Cambrian and Cambro-Silurian, (80-82) p. 17 D.

Quebec and Lake Superior Mining Co., work on property of, (63-66) pp. 143-144.

- Queen Charlotte Islands, B.C., note on position and early history of, (78-79) pp. 2-14 B.
 short account of first visit of Europeans and early fur trade, (78-79) pp. 154-161 B.
 Dixon's account of first voyage to, (78-79) pp. 154-156 B.
 summary of fossils from, (72-73) p. 4.
 coal-bearing rocks of, report by Jas. Richardson, (72-73) pp. 56-63.
 general description, arable land, (72-73) p. 57.
 conglomerates of coal-bearing series on, (72-73) pp. 62-63.
 Upper Shales and Sandstones of, (72-73) p. 63.
 agricultural possibilities, (72-73) p. 65.
 description of fossil cycadææ from Skidegate Inlet, (72-73) pp. 69-70.
 fossils of, new species, list of allied genera, (72-73) p. 72.
 Cretaceous rocks, probable age from fossil evidence, (72-73) p. 74.
 note on iron-ores of by B. J. Harrington, (72-73) pp. 81-82.
 correspondence relative to anthracite coal, (72-73) pp. 84-86.
 note on clay-iron stones of, (73-74) p. 240.
 climate of, causes, (75-76) p. 117.
 rocks of, relations of, (76-77) p. 92.
 note on gold found on, (76-77) p. 144.
 iron-ore in, (76-77) p. 146.
 report on by G. M. Dawson, with map, scale 8 m. = 1 in., (78-79) pp. 1-101 B.
 general description of coast, with Vancouver's description of west coast, (78-79) pp. 3-6 B.

Queen Charlotte Islands, B.C.—*Cont.*

- dates of surveys and sketches made since 1852, (78-79) p. 13 B.
 note on discovery of gold and coal, (78-79) p. 13 B.
 general description, (78-79) pp. 14-45 B.
 chart available in 1878, notes on, (78-79) p. 14 B.
 sketches of harbours, scale 2 knots = 1 in., (78-79) p. 15 B.
 note on tides, timber, climate and soil, (78-79) pp. 42-43 B.
 note on fishing banks and fisheries of, (78-79) p. 44 B.
 geological observations, general remarks on rocks of, (78-79) pp. 45-49 B.
 table of formations represented, (78-79) p. 48 B.
 Triassic rocks of, (78-79) pp. 49-63 B.
 Cretaceous rocks of, (78-79) pp. 63-84 B.
 Tertiary rocks of, (78-79) pp. 84-89 B.
 glacial geology of, (78-79) pp. 89-102 B.
 report on Haida Indians by G. M. Dawson, (78-79) pp. 103-175.
 an account of the Indian villages of, (78-79) pp. 161-171 B.
 on the population of with detailed estimate, (78-79) pp. 171-175 B.
 estimate of present population, (78-79) p. 174 B.
 on some marine invertebrata from, by J. F. Whiteaves, (78-79) pp. 190-205 B.
 list of crustacea from, (78-79) pp. 206-218 B.
 list of plants collected in 1878 by G. M. Dawson, (78-79) pp. 219-222 B.
 notes on latitudes and longitudes adopted on map of, (78-79) pp. 233-239 B.
 meteorological observations taken during 1878, (78-79) pp. 225-229 B.
 Queen Charlotte Coal Mining Co., buildings at Cowgitz, Q.C.Is., (72-73) p. 61.
 Queen Charlotte Sound, B.C., extent of glaciers of, (78-79) p. 97 B.
 Queen or C pit, Sydney mines, N.S., depth of and machinery in, (72-73) p. 245.
 Queen Brook, Inniskillen settlement, Queens Co., N.B., pre-Carboniferous rocks or the dark argillite series, (70-71) p. 193.
 Queen Brook, Petersville, N.B., section of Upper Silurian on, (75-76) pp. 355-357.
 Queensbury Parish, N.B., Cambro-Silurian area in granite area, (82-84) pp. 20-21 G.
 Queens Co., N.B., syenites and granites of, (70-71) p. 33.
 details of St. John Group, in Wickham, (70-71) p. 142.
 topographical features caused by character of rocks of, (72-73) p. 197.
 Carboniferous Formation on, (72-73) pp. 180-230.
 sections measured in, (74-75) p. 85.
 the pre-Carboniferous rocks of, report by Bailey, Matthew and Ells, (75-76) pp. 350-368.
 notes on Devonian of, (75-76) p. 367.

- Queens Co., N.B.—*Cont.*
 list of glacial striæ observed in, (77-78) p. 7 EE.
 Kingston Series of southern part, (77-78) p. 11 D.
 geological report and resumé of former reports by Bailey, Matthew and Ells, with map, (78-79) pp. 1-26 D
for general geology see also Part I, p. 6.
 Queens and Sunbury Cos., N.B., Middle and Upper Carboniferous in, (72-73) pp. 197-225.
 the Upper Silurian of, (Mascarene Series) (75-76) pp. 352-366.
- Queens Co., P.E.I., map of, on Charlottetown and Buctouche Map-sheets issued in 1884.
- Queens Lake, West Musquash River, N.B., granite area, (70-71) p. 184.
- Queensville, Inverness Co., N.S., syenite of vicinity of dykes, (79-80) p. 13 F.
 the crystalline limestone outlier west of, (79-80) p. 24 F.
 analysis of mineral-water from MacMaster's mill, (79-80) p. 7 H.
- Queensville Brook, Caignish Hill, N.S., section of crystalline limestone series in, (79-80) p. 24 F.
 Devonian rocks of General Line road near, (79-80) p. 51 F.
 sequence of Devonian strata exposed in, (79-80) pp. 53-54 F.
- Queest Mountains, near Shuswap Lakes, B.C., elevation of, (77-78) p. 23 B.
- Quercus* sp., note on specimen from Roche Percée, Souris River, Assa., (79-80) p. 54 A.
 fossil species from Hornby and Vancouver Islands, (72-78) p. 68.
- Quercus alba*, Linn., range of in Canada, (79-80) p. 52 C.
- Quercus bicolor*, Willd., note on range of in Canada, (79-80) p. 55 C.
- Quercus Garryana*, Dougl., note on occurrence in British Columbia, (79-80) p. 176 B.
- Quercus macrocarpa*, Michx., note on northern range of in Canada, (79-80) p. 49 C.
- Quercus rubra*, Linn., note on northern limit of in Canada, (79-80) p. 51 C.
- Quesnel, B.C., section of coal-bearing rocks at, (71-72) p. 58.
 examination of volcanic rocks from, (71-72) p. 67.
 crops grown without irrigation at, (71-72) p. 68.
 lignite beds of, (75-76) p. 82.
 observations on situation, elevation, climate and vegetation of, (75-76) p. 127.
 observations on natural history of vicinity of, list of mosses, etc., (75-76) pp. 128-129.
 wood-cut showing section across Fraser River, (75-76) p. 257.
 the lignite formation as exposed at, character of, sections, plant remains, (75-76) pp. 257-260.
- Quesnel, B.C.—*Cont.*
 section and illustration of insect and plant beds in lignite formation at, (75-76) p. 258.
 list of plant remains, note by J. W. Dawson, (75-76) pp. 259-260.
 age of lignite beds at probably Miocene, (75-76) p. 260.
 note on gravels shown in diagrammatic section, (75-76) p. 263.
 insects of Tertiary beds, by S. H. Scudder, (75-76) pp. 266-280.
 fossil insects from, notes by S. H. Scudder, (76-77) pp. 457-464.
 vegetation at, (76-77) p. 18.
 height of the town above sea-level, (76-77) p. 19.
 to Peace River, map accompanying report, (75-76).
 to Stuart Lake, resumé of observations on climate, soil and flora, (75-76) pp. 134-135.
 observations on flora and fauna of country along Telegraph trail, (75-76) pp. 129-137.
 to McLeod Lake, rivers and streams (75-76) pp. 129-140.
 to Blackwater Bridge, general description, (76-77) p. 18.
- Quesnel River, B.C., lignite and iron-ore, report on by T. S. Hunt, (71-72) pp. 66-67.
 gold workings on, (76-77) p. 137.
 copper from, (76-77) p. 148.
- Quick-lime, stone for, general note on suitability of Palæozoic limestones for, (1863) p. 803.
- Quicksilver, *see* Mercury.
- Quincy Mine, Michigan, hanging-wall, description of, (73-66) p. 152.
 amygdaloidal rock under copper-ore bed, (63-66) p. 154.
 width of vein, (63-66) p. 162.
 shafts of, (63-66) p. 162.
 roasting-ore of, (63-66) p. 162.
 output of, (63-66) p. 162.
- Quinns Lake, Simonds Tp., N.B., schistose bed of pre-Silurian, (77-78) p. 25 DD.
- Quinn's lot, North Burgess Tp., Ont., lot 18, R. V., veins of blue and red apatite (70-71) p. 319.
- Quish-quish portage, Mattagami River Ont., rocks at, (75-76) p. 312.
- Quispamsis, N.B., galena in Laurentian, (70-71) p. 228.
- Quoddy River, Bay of Fundy, tidal erosion in, (77-78) p. 19 EE.
- Quogue, Long Island, N.Y., analysis of iron-sand, (66-69) E. p. 269, F. p. 298.
- Rabbit Island, Inhabitants Basin, N.S., Carboniferous rocks of, (79-80) pp. 69-70 F.
 mineral spring on, (79-80) p. 113 F.
- Rabbit Island, Lake Huron, Hudson River Formation exposed on, fossils found at, (1863) p. 217.
- Rabbit Mountain, Thunder Bay District, Ont., jasper rocks of, (66-68) E. p. 322, F. p. 355.

- Race Horse Point, St. John Harbour, N.B., Huronian rocks exposed, (70-71) p. 61.
- Radnor, Que., smelting works at, (1863) p. 686. description of works, (1863) p. 686.
- Radnor furnace, reference to, (73-74) p. 248.
- RAE, DR., note on plan of mouth of Moose River, Hudson Bay, (80-82) p. 10 C.
- Raft River, North Thompson River, B.C., width of at mouth, (71-72) p. 27.
- head-waters of, exploratory trail passing near, (71-72) p. 30.
- granitic series of, (71-72) p. 64.
- sources of gold in, (71-72) p. 66.
- Ragged Head, Chedabucto Bay, N.S., conglomerate of, hematite, (79-80) p. 48 F.
- hematite and specular ore at, (79-80) p. 122 F.
- Ragged Pond, Chedabucto Bay, N.S., Carboniferous rocks similar to eastern Cape Breton, (79-80) p. 60 F.
- Railway explorations in British Columbia, during season of 1879, (79-80) p. 1 B.
- Railway route, from Intercolonial Ry. to Gaspé Basin, note on, (82-84) p. 10 E.
- from Lesser Slave Lake to Lac La Biche, (79-80) p. 85 B.
- through mountains, discussed by A. R. C. Selwyn, (75-76) p. 68.
- from Red Rock, at mouth of Nipigon River, Ont., westward, suggested by R. Bell, (66-69) E. p. 363, F. p. 402.
- Railway surveys made in Nelson River valley, (79-80) p. 33 C.
- Rainfall, effect of trees on, (74-75) p. 53.
- of East Main coast, Hudson Bay, (77-78) p. 27 C.
- at Goderich and Kincardine and for Ontario, 1871-72, (74-75) p. 274.
- increased, on approaching coast in British Columbia, (76-77) p. 28.
- zones of great and deficient, in central British Columbia, (77-78) p. 7 B.
- of exposed part of west coast of British Columbia, (79-80) p. 6 B.
- excessive, effect of on vegetation, west coast British Columbia, (79-80) p. 7 B.
- of Queen Charlotte Islands, note on, (78-79) p. 43 B.
- compared with Vancouver Island and Great Britain, (72-73) p. 65.
- Rainy Lake, Ont., reference to Bigsby's record of gneisses of, (1863) p. 65.
- gneiss of, Huronian band crossing, (73-74) pp. 88-89.
- Rainy River, Ont., Huronian rocks on, (73-74) p. 89.
- limestone debris in drift, (74-75) p. 43.
- Rainham Tp., Ont., undulation in Corniferous Formation of, (1863) p. 379.
- covered with reddish-brown clay, (1863) p. 902.
- Raised beaches, at Hardy Lake and Upper Marie Joseph Lake, N.S., (77-78) p. 27 F.
- on islands and on mainland around Hudson Bay, (77-78) pp. 32-33 C.
- Raised beaches—*Cont.*
- in Naden Harbour, B.C., shell heaps, evidence of inhabitants, list of shells found, (78-79) pp. 94-95 B.
- at Stupart Bay, Prince of Wales Sound, Hudson Strait, (82-84) p. 26 DD.
- Raleigh Station, C.P.Ry., Huronian schists at, commencing east of, attitude and sequence of beds, (80-82) p. 12 C.
- Raleigh Tp., Ont., character of soil and analysis of, (1863) pp. 639-640.
- ridge, probably old lake-beach of Lake Erie, (1863) p. 913.
- Rama Tp., Ont., reference to green markings like glauconite in limestone of, (1863) p. 488.
- Ramah, Labrador, Huronian rocks reported at, (82-84) p. 16 DD.
- RAMM, F. W., fossils presented to Museum by, 1872-73, (72-73) p. 2.
- RAMSAY, PROF. A. C., referred to, in discussion of glacial erosion of lake-basins, (1863) p. 889.
- Ramsay Falls, Trent River, Ont., exposures of Trenton limestone, (1863) p. 188.
- Ramsay Island, Q.C.Is., B.C., description of, (78-79) p. 22 B.
- volcanic series of, coarse agglomerates, (78-79) p. 60 B.
- new species of *Solaster* from, (78-79) p. 192 B.
- Ramsay mine, Lanark, Ont., failure of lode, (74-75) p. 163.
- Ramsay Tp., Ont., pyrralolite in rocks of noted, (1863) p. 470.
- reference to hematite in Potsdam of, (1863) p. 510.
- note on galena found in, (1863) p. 516.
- vein cutting Palæozoic rocks of, (1863) p. 636.
- note on galena deposits of, mining undertaken, (1863) pp. 688-690.
- occurrence of pyrralolite in, (1863) p. 798.
- width of limestone band, (74-75) p. 140.
- striped limestone band in (74-75) p. 144.
- hornblende rocks Group IV., (74-75) p. 149.
- limestone band top of Group IV., (74-75) p. 150.
- section of gneiss and crystalline limestone group, (74-75) p. 152.
- gneiss and limestone series in, (74-75) pp. 155-156.
- serpentine limestones of, (73-75) pp. 157-158.
- description of banded limestone of (74-75) pp. 313-314.
- limestones similar to those of McNab Tp., (76-77) p. 252.
- labradorite in, (76-77) p. 261.
- RAMSEY, A. R., information from, on rocks in vicinity of Flying Post, Mattagami River, Ont., (80-82) p. 7 C.
- Range of plants westward from Nelson River, common to Lake Superior, (79-80) p. 67 C.
- Rankin Brook, Mabou, N.S., pre-Cambrian rocks of, (82-84) p. 8 H.

- Rankin copper-mine, Root River, Ont., (76-77) p. 212.
- Rankin River, Grey Co., Ont., Niagara Formation probably found in valley of, (1863) p. 333.
- Ranteleau Point near Arichat, N.S., felsite rocks at, (79-80) p. 5 F.
- Arichat conglomerate and sandstones, Devonian, (79-80) p. 37 F.
- Raphillite, description and analysis of, (1863) p. 466.
- see Tremolite.
- Rapide Bouillé, Peace River, gypsum in beds, (75-76) p. 89.
- notes on fossils from, (75-76) p. 104.
- Rapide des Femmes, St. John River, N.B., description of kame at, (82-84) p. 21 GG.
- sections of terraces in valley of St. John River, (82-84) p. 35 GG
- Rapide Milieu, Athabasca River, height of banks concretionary sandstone band, (82-84) p. 15 CC.
- Rapide Pas-de-Bout, Athabasca River, petroleum-bearing sandstone at, (82-84) p. 15 CC.
- Rapide Parle-par, Peace River, Selwyn party at, (75-76) p. 44.
- Rapid River, B.C., gold workings on, (76-77) p. 140.
- Rapid River to Fort Ellice, Man., character of country, (74-75) p. 28.
- Rapid River, Rainy River, Ont., Huronian massive rocks at, (73-74) p. 89.
- Rapids on Lower Nechacco River, B.C., Isle de Pierre Rapid, (76-77) p. 52.
- Rapids and canals of the Ottawa River, note on, (1863) p. 10.
- Rapids of St. Lawrence River, general note on, fall in, (1863) p. 10.
- the effect of trap dykes and floors in soft Utica shales, (1863) p. 207.
- Rapids in upper part of Skeena River, B.C., (79-80) p. 14 B.
- Raspberry Mountain, Lesser Slave Lake, note on hills, (79-80) p. 90 B.
- Rat Creek, Man., section of bore-hole at, (74-75) p. 3.
- age of rocks bored through, (74-75) p. 3.
- Rat Portage, Ont., contract of Huronian and Laurentian at, (72-73) p. 103.
- assay of gold-bearing quartz from near, (78-79) p. 23 H.
- rocks along Canadian Pacific Railway near, (80-82) p. 13 C.
- Rat River near Dunvegan, Peace River, coal reported on, (79-80) p. 118 B.
- Radcliff's mill-stream, St. John Co., N.B., section of St. John Group, fossils, (70-71) p. 139.
- inverted beds, Huronian and Primordial, (70-71) p. 63.
- fault on, (70-71) p. 179.
- section of Primordial rocks, (77-78) p. 29 DD.
- Rates of evaporation, of pure water and salt brines, (66-69) E. p. 233, F. p. 257.
- Rattle used by medicine man, Haida Indians figured Plate XI., (78-79) B.
- used in dancing by Haida Indians, (78-79) p. 138.
- used by Haida Indians, figured on Plate IX., (78-79) Part B.
- Rattlesnake Falls, on branch of Grand River, Ont., Lower Helderberg exposed at, fossils, (1863) pp. 354-355.
- Rawdon Tp., Que., anorthosite rocks of referred to, (1863) p. 34.
- note on limestone bands, and anorthosite areas in, (1863) p. 44.
- rock resembling pyralloite in, (1863) p. 470.
- analysis of labradorite from, (1863) p. 479.
- character of mineral-water, situation of springs, (1863) p. 541.
- note on anorthosites of, (1863) p. 589.
- rocks suitable for flagging in, (1863) p. 829.
- summary of work by Jas. Lowe in 1869, (69-70) p. 7 Summ.
- Reardon's Corners, N.B., gravel bar on Lake Utopia, (77-78) p. 15 EE.
- Recent shells from Vancouver Island, determined by J. F. Whiteaves, (71-72) p. 94.
- Recluse Lake, Little Churchill River, description of, (78-79) p. 15 C.
- Reciprocity Company, extensive preparations for mining on Chaudière River, Que., (63-66) p. 58.
- Record of boring, No. 2, Newcastle Bridge, N.B., (74-75) pp. 94-95.
- No. 3, Newcastle Bridge, N.B., (74-75) p. 96.
- of salt-well at Kincardine, Ont., 60 ft., rock-salt, (74-75) p. 286.
- of salt-well at International Works, Goderich, Ont., (74-75) p. 285.
- Red apatite on lots 9 and 10, R. V., North Burgess Tp., Ont., veins of, (70-71) p. 318.
- Red beds of Lower Carboniferous exposed on Bay of Chaleurs, (79-80) pp. 8-10 D.
- Red berry Creek, west of Carlton, Sask., character of country, (73-74) p. 33.
- Red Bird, Minn., analysis of grey sand from rocks of, (1863) p. 488.
- Red Brook, Pictou, N.S., shales exposed on, (66-69) E. p. 80, F. p. 89.
- Red Brook, Victoria Co., N.S., copper-ore at (76-77) pp. 438, 450.
- Red calcite of first syncline in phosphate rocks of Bedford, Ont., (73-74) p. 108.
- Red Cape, Bay of Chaleurs, red conglomerates of, (1863) p. 447.
- red Devonian conglomerates, east of Black Cape, (80-82) p. 12 D.
- Red Cape, Grindstone Island, Magdalen Islands, rock exposures of, (79-80) p. 5 G.
- Red cedar, range of in Canada, note on, (79-80) p. 53 C.

- Red clay, of Kaministiquia valley, Thunder Bay District, Ont., extent of westward, (72-73) p. 111.
on Little Dog Lake, Kaministiquia River and Red River Road, (66-69) E. p. 355, F. p. 392.
- Red-clay River, Lake Nipissing, Ont., red, blue and buff clay on, (1863) p. 906.
- Red-cliff, note on loose coal in, near Prince Albert, Sask., (75-76) p. 290.
- Red conglomerate near Mr. Findlay McDonald's mill, Pictou, N.S., (66-69) E. p. 39, F. p. 44.
- Red Creek, branch of Milk River, Alta., section of beds near International Boundary (82-84) pp. 39-40 C.
- Red Deer Hill, north of Saskatchewan River, Alta., height of, surface of country (73-74) p. 35.
- Red Deer River, Alta., fossils found by Dr. Hector, (73-74) p. 49.
change in character of Pierre shales on, (80-82) p. 7 B.
thickness of Coal Banks seam on, (80-82) p. 14 B.
general description from Rosebud Creek to Hunting Hill, (82-84) p. 35 C.
and country south to Bow River, rocks of, (82-84) pp. 92-96 C.
rocks near mouth of Rosebud River, (82-84) p. 93 C.
note on coal-seams of, (82-84) pp. 94-95 C.
rocks of Pierre and Belly River Series, (82-84) pp. 95-96 C.
thickness of upper part of Pierre, (82-84) p. 115 C.
thickness of upper part of Belly River Series, (82-84) p. 116 C.
list of coal outcrops, thickness of seams, (82-84) p. 131 C.
analysis and calorific power of lignite from mouth of Arrow-wood River, (82-84) p. 15 M.
from Rosebud River to Hunter Hill analyses of lignite from various outcrops, (82-84) pp. 16-18 M.
- Red felsites between granites and felsites south of intrusive mass, near Bocabec, N.B., (70-71) p. 186.
- Red gneiss area within part of Lanark Co., Ont., (74-75) p. 129.
- Red Head, Grand Manan Island, N.B., ribbed slates and chloritic rocks, (70-71) p. 108.
contact of Triassic and older rocks, (70-71) p. 220.
- Red Head, Guysborough Co., N.S., Devonian rocks at, (79-80) p. 40 F.
- Red Head near Ingonish, N.S., syenite and felsite of, (82-84) p. 18 H.
- Red Head Harbour, N.B., schists of Coastal Group, (70-71) p. 93.
- Red Hills of Madoc, Ont., rocks of, (66-69) E. p. 147, F. p. 163.
- Red Island, Bras d'Or Lake, N.S., fossils at, (76-77) p. 446.
- Red Lake, Keewatin, Huronian band predicted on, (72-73) p. 103.
summary of surveys by Dr. Bell, 1883, (82-84) pp. 5-6.
- Red and green marls of the Coal Measures, Sydney coal-fields, N.S., fossils, (74-75) p. 197.
- Red marl at top of Medina Formation, Manitoulin Island, Ont., (63-66) p. 174.
- Red marls and traps, Nipigon River, (66-69) E. p. 338, F. p. 373.
- Red mountains of Lake Tp., Ont., extent and position, (66-69) E. p. 147, F. p. 163.
- Red oak, note on northern limit of in Canada, (79-80) p. 51 C.
- Red Ochre Hills, or Vermilion Hills, Assa., character of surface of, section on banks of Saskatchewan from land-slides fossiliferous sandstones, (73-74) pp. 74-75.
Tertiary rocks, sandstones, probably same as at base of Dirt Hills, thickness of Cretaceous clays, (73-74) p. 84.
traces of gold in, (73-74) p. 86.
- Red ore, analysis of iron-ore from Hull, Que., (66-69) E. p. 254, F. p. 281.
- Red pine, note on northern limit of in Canada, (79-80) p. 50 C.
- Red Pine Brook, N.B., crossing on Intercolonial Railway, exposures of transition beds of Millstone Grit, (79-80) p. 5 D.
- Red Pine Indian Reserve, Thompson River, B.C., farming and hay land, (71-72) p. 25.
- Red Pine Station, N.B., exposure of purple beds of Millstone Grit, (79-80) p. 5 D.
- Red Point, Kamloops Lake, B.C., flexure in strata, fault, diagrammatic section, (77-78) p. 116 B.
- Red Rapids, Tobique River, N.B., Carboniferous rocks common, (66-69) E. p. 201, F. p. 223.
dyke of greenish dolerite, red beds of Lower Carboniferous, (79-80) p. 15 D.
- Red River, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 20 H.
- Red River, Man., date of closing of navigation in 1873, (73-74) p. 58.
Lower Silurian limestones occupying lower part of, note on, (73-74) p. 82.
floods of, (74-75) pp. 50-55.
report on examinations of water of, (78-79) pp. 7-12 C.
analysis of water taken from, in 1873 (78-79) p. 9 C.
notes on Silurian fossils from St. Andrews, (78-77) pp. 45-47 C.
geological character of area drained by, (78-79) pp. 8-9 H.
analysis of water collected in October, 1879, (78-79) pp. 10-11 H.
- Red River, Peace River, Atha., rock exposures in, (75-76) p. 89.
- Red River Post, Peace River, vegetables in garden, character of river below, (75-76) p. 161.
- Red River, Que., the Trenton Group exposed on (1863) p. 149.

- Red River road, Thunder Bay, Ont., boundary of Huronian rocks on, (66-69) E. p. 325, F. p. 359.
 Laurentian rocks of, (66-69) E. p. 328, F. p. 361.
 red clay forming soil, (66-69) E. p. 355, F. p. 392.
- Red River route, from Thunder Bay, Ont., eastern section of, (72-73) pp. 94-96.
 notes on geology of, (73-74) pp. 87-90.
- Red River valley, Man., stratified deposits of, thickness, (74-75) p. 48.
- Red Rock, Nipigon River, Ont., ridge of boulder drift, (66-69) E. p. 354, F. p. 391.
 vitreous copper-ore reported, (66-69) E. p. 360, F. p. 398.
- Red rocks, west of East River, Pictou, N.S., referred to, (66-69) E. p. 52, F. p. 58.
- Red-rocks Rapid, Nelson River, Keewatin, height of, (77-78) p. 14 CC.
- Red Rock settlement, York Co., N.B., trap rocks, (66-69) E. p. 186, F. p. 205.
- Red Sandrock of Vermont, general description of, area of, east of Lake Champlain, (1863) pp. 281-286.
- Red sandstone, McLellan Brook, Pictou, N.S., section of, (66-69) E. p. 9, F. p. 9.
- Red sandstones, of Medina Formation, exposures of, in Ontario, (1863) pp. 312-321.
 between coal-seams and New Glasgow conglomerate, Pictou Co., N.S., (66-69) E. p. 77, F. p. 86.
 in Pictou Co., N.S., (66-69) E. p. 11, F. p. 12.
 of New Brunswick, recognized by Gesner, (70-71) p. 21.
 of Clinton Formation at Cabot Head, Georgian Bay, Ont., fossils of, (1863) pp. 319-320.
- Red shales, of Clinton Formation near Dundas, Ont., probably same as iron-ore bed of Rochester, N.Y., (1863) p. 314.
 of Hudson River Formation on Little Rivière du Chêne, Que., (1863) p. 203.
 from Etchemin River, Que., analysis of, (1863) p. 600.
 of Medina Formation, supposed to occur near Nicolet, Que., above the Hudson River rocks, (1863) p. 205.
 in Russell and Osgoode Tps., near Ottawa, (1863) p. 219.
 of Quebec Group, in Lévis rocks of Orleans Island, (1863) p. 229.
- Red Show pit, High Rock mine, Que., size of opening, rock at, (82-84) p. 11 J.
- Red springs showing coal outcrops in Pictou, Co., N.S., (66-69) E. p. 29, F. p. 32.
- Red syenite, near Pollet Lake, Kings Co., N.B., (77-78) p. 24 DD.
- Red-top Mountain, Crescent Inlet, Q.C.Is., B.C., height of (78-79) p. 25 B.
- Red-weathering sandstones of Coal Measures, similar to Millstone Grit, (66-69) E. p. 34, F. p. 38.
- REED, M. E., analysis of magnetite from Bedford Tp., Ont., Glendower mine, (82-84) p. 10 L.
- REED, W. T. L., sections of terraces in Fredericton, N.B. measured by, insect remains in, (82-84) pp. 38-39 GG.
- Reef Island, Laskleek Bay, Q.C.Is., B.C., position of, shores of, (78-79) p. 27 B.
- Refractory materials, plumbago, mica, soapstone, pyralolite, potstone, sandstone and sand, (1863) pp. 792-801.
- Reid Hill mine, Hatley Tp., Que., copper-ore of, (63-66) p. 42.
- Reindeer, date of passing Du Brochet Post, Reindeer Lake, Atha., (79-80) p. 15 C.
 at Nottingham Island, Hudson Strait, note on, (82-84) p. 30 DD.
- Reindeer Lake, Atha., note on surveys made by A. S. Cochrane, 1880, outline of work for 1881, (79-80) pp. 14-16 C.
 report of graphite and other minerals found on, (79-80) p. 16 C.
 serpentine reported from, (78-79) p. 38 C.
 analysis of water of, (80-82) p. 6 H.
 to Lake Athabasca, distance as measured by A. S. Cochrane, (80-82) p. 5.
 list of coleoptera collected at, (80-82) p. 39 C.
- Relative composition of coals, lignites, &c., diagram illustrating, (80-82) facing p. 21 B.
- Religion of the Haida Indians, note on, (78-79) pp. 121-122 B.
 of the Tshimsian Indians, (78-79) p. 125 B.
- Rendalls Head, Maine, beds of Mascarene Series and Perry group, (70-71) p. 157.
- Renfrew, N.S., assay of tailings from gold-mines, (70-71) p. 279.
 statistics of gold for 1869-71, (71-72) p. 150.
- Renfrew, Ont., road to, (76-77) p. 257.
 rocks around, (76-77) p. 258.
- Renfrew Co., Ont., Group IV., limestone and hornblende-rock group, (74-75) pp. 140-151.
 H. G. Vennor's summary statement of position of rock-groups of, (75-76) p. 4.
 blotched diorite rocks of, referred to, (76-77) p. 204.
 completion of work in, (76-77) p. 245.
 crystalline limestones in, (76-77) p. 245.
 map of part of, on map of Lanark, Co., (74-75) facing p. 105.
for general geology see Part I., p. 15.
- Renous River, Northumberland Co., N.B., Lower Carboniferous rocks recognized on, (80-82) p. 9 D.
 the Cambro-Silurian rocks on, (80-82) p. 16 D.
- Rensseleria ovalis*, Hall, wood-cuts of, (1863) p. 962.
- Rensseleria ovoides*, Eaton, wood-cut of ventral valve, (1863) p. 961.

- Rensselærite, general mode of occurrence in Canada, with particular descriptions and analyses of, (1863) p. 470.
from Portage du Fort, Que., analysis of, (76-77) p. 484.
see Pyralloïte.
- Renton's process of reducing ore to bloom iron, (66-69) E. p. 289, F. p. 320.
- Report for 1866-69, number of copies printed in English and French, (70-71) p. 1.
- Reports distributed during 1879, (78-79) p. 6.
- Report of Select Committee on Geological Surveys, notes by A. R. C. Selwyn in regard to, (82-84) pp. 25-27.
- Reptiles, fossil, from Bad Lands, south of Wood Mountain, Assa., (79-80) p. 34 A.
- Reptilian remains in Laramie of Scabby Butte, Alta., (82-84) p. 79 C.
- Reserve mine, N.S., situation of, seam in area (72-73) p. 265.
slopes, surface works, (72-73) pp. 266-267.
coal raised at, quality of, (72-73) p. 266.
underground workings, (72-73) p. 267.
production of coal at, (72-73) p. 267.
practical trial of coal on locomotive, (72-73) p. 271.
statistics, men employed, expenditure, etc., (72-73) p. 290.
- Residence of Haida Indians at different seasons, (78-79) p. 117 B.
- Resins, comparison of with amber, (76-77) p. 473.
mineral, in lignite-seams, Dirt Hills, Assa., (73-74) p. 78.
from Nechacco River, B.C., examination of, (76-77) p. 472.
from North Saskatchewan River, Alta., examination of, (76-77) pp. 471-472.
from Peace River, Atha., examination of, (76-77) p. 472.
from Shaw's mill, Gaspé, properties and analyses of, (1863) p. 791.
- Resources of British Columbia, note on forests, and mines, (71-72) p. 72.
of Hudson Bay region, note on, (79-80) pp. 31-32 C.
- Resolution Island, Hudson Strait, view showing outline of hills, (73-80) facing p. 24 C.
- Restigouche basin of Gaspé Series and Bonaventure Formation in Quebec and New Brunswick, (1863) pp. 450-451.
Devonian rocks of, (80-82) pp. 9-12 D.
- Restigouche Co., N.B., geology of part of by R. W. Ells, (79-80) pp. 1-47 D.
note on trappean rocks of Bay of Chaleurs, (80-82) p. 19 D.
map of part of, scale 4 m. = 1 in., *see* Dalhousie Map-sheet, accompanying report, (80-82) Part D.
for general geology see Part I., p. 6.
- Restigouche River, N.B., trap rocks at mouth of Little River, (1863) p. 449.
note on part previously examined and extent of surveys by R. W. Ells, (79-80) p. 3 D.
- Restigouche River, N.B.—*Cont.*
note on character of farming lands of, (78-80) p. 4 D.
exposures of Lower Carboniferous near mouth of, (79-80) p. 10 D.
Devonian basin at mouth of, description of, (79-80) pp. 10-11 D.
the Silurian rocks of, reference to description of, (79-80) p. 18 D.
terraces in valley of, (79-80) p. 18 D.
trap areas on lower part, width of, (80-82) p. 19 D.
exposures of Silurian on, (79-80) p. 21 D.
Silurian rocks of north side of, (79-80) p. 21 D.
note on diabasic rocks, ancient depression of river-valley, (79-80) p. 42 D.
- Retinalite from Grenville, Que., analysis of, (1863) p. 472.
- Retzia Chloe*, Billings, wood-cuts of, (1863) p. 385.
- Retzia Eugenia*, Billings, wood-cuts of, (1863) p. 373.
- Retzia multistriata*, Hall, wood cut-of, (1863) p. 958.
- Revolving cylinder-furnace, Dunstan's figures and description, (71-72) p. 135.
- Rhumore Cape, N.S., section of Laurentian rocks at, (76-77) p. 419.
- Rhynchonella*, sp. from lower part of Athabasca River, notes on, (75-76) p. 105.
note on specimens from Fossil Point, Peace River, Atha. (75-76) p. 100.
- Rhynchonella Anticostensis*, Billings, wood-cuts of, (1863) p. 211.
notes on supposed specimens from Nelson River, (78-79) p. 47 C.
- Rhynchonella brevisstris*, Hall, wood-cut of, (1863) p. 315.
- Rhynchonella camura*, Hall, wood-cut of, (1863) p. 315.
- Rhynchonella capax*, Conrad, wood-cuts of, (1863) p. 211.
- Rhynchonella cuneata*, Hall, wood-cut of, (1863) p. 315.
- Rhynchonella increbescens*, Hall, wood-cuts of, (1863) p. 168.
- Rhynchonella Laura*, Billings, wood-cut of, (1863) p. 384.
- Rhynchonella Medea*, Billings, wood-cuts of, (1863) p. 370.
- Rhynchonella (?) Modesta*, Conrad, wood-cuts of, (1863) p. 211.
- Rhynchonella neglecta*, Hall, wood-cut of, (1863) p. 315.
- Rhynchonella orientalis*, Billings, wood-cut of, (1863) p. 126.
- Rhynchonella plena*, Hall, wood-cuts of, (1863) p. 126.
- Rhynchonella psittacea*, Linn., wood-cut of (1863) p. 963.

- Rhynchonella recurvirostra*, Hall, wood-cuts of, (1863) p. 168.
- Rhynchonella rugosa*, Hall, wood-cut of, (1863) p. 315.
- Rhynchonella Tethys*, Billings, wood-cuts of, (1863) p. 370.
- Rhynchonella Thalia*, Billings, wood-cuts of, (1863) p. 370.
- Rice Lake, Ont., height of, (1863) p. 12.
- RICHARDS, CAPT. G. H., Admiralty surveys carried out by, referred to, (76-77) p. 171.
- RICHARDSON, SIR JOHN, reference to narrative of journeys in Northern America, (73-74) p. 21.
- exposures of Silurian reported by, on Beaver Lake, Methy Portage and Beaver River, Sask. and Atha., (73-74) p. 52.
- RICHARDSON, JAS., sketch of work performed by previous to 1863, (1863) p. iv.
- surveys made by in Gaspé, 1857-58, (1863) p. 10 Atlas.
- work by during 1863 to 1865, (63-66) pp. 4-6.
- report on Quebec Group, (63-66) pp. 29-47.
- report on Quebec Group and Potsdam of Lévis to Kamouraska Cos., Que., (66-69) E. pp. 119-141, F. pp. 133-137.
- map of south shore St. Lawrence, Lévis to Temiscouata, (66-69) E. p. 119, F. p. 133.
- work during 1867 and 1868 in Quebec, (66-69) E. p. 119, F. p. 133.
- method of investigation on Lower St. Lawrence, (66-69) E. p. 119, F. p. 133.
- report on north shore St. Lawrence River, in Saguenay Co., Que., (66-69) E. pp. 305-311, F. pp. 337-344.
- work during 1869 on Lower St. Lawrence, (66-69) E. p. 305, F. p. 337.
- summary of work on Quebec Group, 1867-68, (68-69) p. 4 Summ.
- work in 1870 on Mistassini Lake, Que., route traversed, (70-71) p. 8.
- collection of fossils from Lake St. John, Que., (70-71) p. 10.
- work of 1870 north of Lake St. John, Que., (70-71) p. 283.
- route of travel, etc., Mistassini expedition, (70-71) p. 283.
- report on county north of Lake St. John, Que., (70-71) p. 283-308.
- list of plants collected in Lake St. John and Mistassini region, Que., (70-71) pp. 306-308.
- plan of explorations in British Columbia in 1871, (71-72) p. 25.
- route travelled during 1871 in British Columbia, (71-72) p. 73.
- report on coal-fields of Vancouver Island, (71-72) pp. 73-100.
- note on explorations in British Columbia, (71-72) pp. 73-74.
- roads measured by, in interior of British Columbia, (71-72) pp. 74-75.
- work at Nanaimo, Comox and Victoria, B.C., in 1871, (71-72) p. 75.
- number of fossils collected during 1872-73, (72-73) p. 2.
- RDSON, JAS.—Cont.
- detail of route travelled and areas examined in 1872-73, (72-73) pp. 32-34.
- report on coal-fields of Vancouver and Queen Charlotte Islands, B.C., (72-73) pp. 32-65.
- report on explorations in Vancouver Island during 1873, summary of operations, geological features, (73-74) pp. 94-102.
- islands examined in 1873 in Strait of Georgia, B.C., (73-74) p. 96.
- localities from which collections of fossils were obtained in 1873, (73-74) p. 97.
- notes by J. F. Whiteaves on fossils collected in Vancouver Island, (73-74) pp. 260-268.
- number of fossils collected from Cretaceous of British Columbia, (74-75) p. 11.
- plants and marine animals from British Columbia collected by, note on, (74-75) pp. 12-13.
- report on explorations in British Columbia in 1874, (74-75) pp. 71-83.
- summary of route followed in British Columbia in 1874, (74-75) pp. 71-72.
- work at Philadelphia Exhibition, 1876 (75-76) p. 3.
- work of during 1875 in British Columbia, (75-76) pp. 4-5.
- completion of map of Nanaimo and Comox coal areas, B.C., (76-77) p. 2.
- referred to, (76-77) pp. 120, 121, 123.
- report on coal-fields of Nanaimo, Comox, Cowichen, Burrard Inlet and Sooke, B.C., (76-77) pp. 160-192.
- summary of work for 1879 near Rivière du Loup, Que., (78-79) p. 4.
- reference to work on Cretaceous of Q.C. Is., B.C., (78-79) p. 64 B.
- description of Cowgitz coal-mines referred to, (78-79) p. 73 B.
- examination of mode of occurrence of kaolin at Grand Frenier, Que., (78-79) p. 7 H.
- retirement from staff of Geological Survey announced, (79-80) p. 9.
- report on Magdalen Islands, Que., (79-80) pp. 1-13 G.
- list of plants collected on Magdalen Islands, Que., (79-80) pp. 12-15 G.
- sections measured by in Gaspé, Que., referred to, (80-82) p. 21 DD.
- Richardson mine, Hastings, Ont., discovery of gold at, (66-69) E. p. 165, F. p. 184.
- mode of occurrence of gold at (66-69) E. p. 165, F. p. 184.
- examination of, by H. G. Vennor, (66-69) E. p. 166, F. p. 187.
- Richardson seam, near New Glasgow, N.S., section of, (66-69) E. p. 47, F. p. 52.
- Richardson seam, Crown Pottery pit, Pictou, N.S., analysis of coal, (66-69) E. p. 393, F. p. 435.
- Richardson seam, Baynes Sound, B.C., analysis of coal from, (76-77) p. 468.
- Richelieu Co., Que., for notes on geology see Part I., p. 10.

- Richelieu River, Que., the Trenton Group on, (1863) p. 139.
the Utica shale and Hudson River Formation exposed on, (1863) p. 208.
- Richibucto Map-sheet including part of Kent and Westmoreland Cos., N.B., with report, (80-82) Part D.
- Richmond, Ont., peat deposits near, noted, (1863) p. 780.
- Richmond, Que., position of lower black slates at, (1863) p. 240.
roofing slates of, (1863) p. 253.
- Richmond coal-fields, Cape Breton, N.S., note on explorations and mining operations, (79-80) pp. 117-120 F.
- Richmond Co., N.S., report on part of by H. Fletcher, (76-77) pp. 402-456.
Devonian rocks of, (77-78) pp. 16-23 F.
Carboniferous conglomerate and limestone, (77-78) pp. 23-24 F.
superficial geology of, (77-78) pp. 25-28 F.
notes on economic minerals of, (77-78) pp. 28-32 F.
report on geology of part of, (79-80) pp. 1-125 F.
the Carboniferous rocks of, (79-80) pp. 62-111 F.
map of, issued in sheets in 1884, scale 1 m. = 1 in. Sheets No. 17, 18, 20, 21, 22 and 23.
for general geology see Part I., p. 5.
- Richmond Co., Que.:
for general geology see Part I., p. 10.
- Richmond Gulf, Hudson Bay, sections of rocks at, Castle Peninsula, section and illustration, (77-78) p. 14 C.
Huronian rocks of, (77-78) p. 15 C.
note on lead-ore from, (77-78) p. 20 C.
note on copper-pyrites from, (77-78) p. 20 C.
note on loose masses of iron-ore at, (77-78) p. 22 C.
rocks suitable for flagstones, (77-78) p. 24 C.
assay of galena from, (77-78) p. 52 G.
northern limit of white spruce near, (78-79) p. 41 C.
assay of quartz and pyrites from 6 miles north of, (78-79) p. 20 H.
- Rich's lime-works near Swanton, Vt., dove-grey limestones and rocks of Potsdam Group, (1863) p. 857.
- Rideau Canal, Ont., exposures of Calciferous on, rocks used in locks of, (1863) p. 118.
- Rideau Lakes, Ont., note on heights, (1863) p. 9.
veins of apatite near, (63-66) p. 227.
series of rocks on north side of, (72-73) pp. 162-163.
- Rideau River, Ont., heights of lakes and fall in, (1863) p. 9.
- Rideau Mining Co., veins worked by, on lots 4, 9 and 10, R.V., North Burgess Tp., Ont., (70-71) pp. 317-318.
- Ridgeway, Bertie Tp., Ont., exposure of Corniferous Formation at Horn's quarry, (1863) p. 364.
- Ridges, of drift material on plateau south of Kamloops, B.C., (77-78) p. 27 B.
gravel, near Meaford continue to Point Rich, Ont., (1863) p. 911.
description of the Oak Ridge, (1863) p. 909.
between Choo-tan-li and Blackwater, B.C., (76-77) p. 23.
in Peace River district, general formation of, (79-80) p. 66 B.
sand and gravel near Beautiful Plain, Man., (74-75) p. 28.
in valley of Trout River, Moose River basin, Ont., (80-82) p. 9 C.
- Riding Mt., Man., note on exposures of Cretaceous reported by H. Y. Hind, other exposures reported, (73-74) p. 83.
character of country on southern face, from Rapid River to Fort Ellis, (74-75) p. 28.
- RIEHN, HEMME & Co., assay of galena from Omineca, B.C., (79-80) pp. 111-112 B.
- Rigaud, Que., section of Calciferous at bridge on Rivière à la Graise, (1863) p. 112.
note on distribution of Calciferous Formation in vicinity of, (1863) p. 116.
analyses of dolomite from, (1863) p. 619.
analysis of clay from banks of Rivière à la Graise, (1863) p. 641.
description of trachyte, forming mass of mountain, (1863) p. 658.
- Rigaud anticline affecting dip of Trenton rocks on Castor River, (1863) p. 174.
- Rigaud Mountain, Que., height of, (1863) p. 8.
mass of trap piercing Potsdam Formation, (1863) p. 91.
character of diorite, of part of, (1863) p. 665.
description of boulder deposits on flanks of, beaches, (1863) p. 896.
- Rigaud Tp., Que., peat deposits reported in rear of, (1863) p. 780.
clay deposits on Rivière à la Graise, (1863) p. 917.
analysis of dolomite from, (74-75) p. 311.
- Right-hand Branch, Tobique River, N.B., rocks of, galena and silver-ores, (66-69) E. p. 204, F. p. 226.
- RILEY, M., analysis of pig-iron by, from Bay St. Paul, Que., (73-74) p. 250.
- Riley Brook, Tobique River, N.B., clay-slates, contorted slate and quartzite, (66-69) E. p. 203, F. p. 225.
- Rimouski, Que., green sandstone of Sillery series distribution of, near, (1863) p. 261.
- Rimouski Co., Que., boulders found in valley of Neigette River, that have travelled north, (1863) p. 893.
map of part on Lake Metepedia Map-sheet issued in 1884.
for general geology see Part I., p. 10.
- Rimouski Fall, Que., rocks exposed at, (1863) p. 419.
- Rimouski River, Que., breadth of Quebec Group on, (1863) p. 261.
Gaspé Series exposed on, (1863) pp. 418-419.
peat deposits near, noted, (1863) p. 783.

- Ringwood, New Jersey, Westmanns furnaces in use at, (66-69) E. p. 249, F. p. 276.
- Ripon Tp., Que., analysis of scapolite from, (77-78) p. 32 G.
- Ripple-marks in sandstone, note on Potsdam sandstones, Beauharnois, Que., (1863) p. 107.
in sandstone, on McNeil Brook, N.S., (76-77) p. 439.
- Riske's farm, Fraser River, B.C., character and flora of country near, (75-76) p. 235.
rocks of Lower Cache Creek Group exposed near, (75-76) p. 247.
- Riske's farm, Fraser River, B.C., glacial striation at, (75-76) p. 261.
- Ritchie and Jackson apatite location, North Burgess, Ont., note on, (71-72) p. 125.
- Ritchie Mine, Portland Tp., Que., analysis of apatite, (77-78) pp. 5-10 H.
- River Blanche, Ont., above Lake Temiscaming, survey of, rocks of, (72-73) p. 129.
timber of valley, arable land, (72-73) pp. 133-134.
- River Bourgeois, Richmond Co., N.S., Carboniferous rocks of, (79-80) p. 66 F.
- River channels, ancient and buried, in gold districts of British Columbia, (76-77) p. 108.
old, followed by present streams, (77-78) p. 26 CC.
in Alberta, pre-glacial and post-glacial, (82-84) p. 140 C.
- River Denys, Inverness Co., N.S., section of rocks above Victoria road, pre-Cambrian limestones, etc., (79-80) pp. 31-32 F.
Carboniferous rocks of upper part, gypsum and limestone, contact with pre-Cambrian, (79-80) p. 100 F.
- River Denys chapel, Inverness Co., N.S., schistose rocks at, (79-80) p. 28 F.
- River Denys cross-roads, Inverness, N.S., section of gneissic rocks in small stream below, (79-80) p. 30 F.
contact of Carboniferous and pre-Cambrian, rocks near (79-80) p. 100 F.
reported gold discovery, (79-80) p. 12 ?.
- River Denys Map-sheet, N.S., issued 1884, scale 1 m. = 1 in.
- River Denys road, Inverness Co., N.S., hematitic syenite on, (79-80) p. 14 F.
concretionary limestone and crystalline limestone on, (79-80) p. 27 F.
schistose rocks, quartzites, limestones and gneisses of, with sections, (79-80) pp. 28-31 F.
- River Desert, Ottawa Co., Que., Laurentian limestones, gneisses, etc., at, (70-71) p. 288.
- River drift, in Blackwater River, B.C., (75-76) p. 263.
- River gravel, of Skeena River, B.C., material of, fossils in, (79-80) p. 102 B.
- River Inhabitants, Inverness Co., N.S., felsites of North-west Arm, (79-80) p. 12 F.
Carboniferous rocks of lower part, (79-80) p. 70 F.
rocks on roads near, (79-80) p. 92 F.
Carboniferous rocks above McLeod's bridge, (79-80) p. 96 F.
section of soil in valley of, (79-80) p. 116 F.
- River Inhabitants syncline, N.S., Coal Measures of, (79-80) pp. 97-100 F.
- River Moulin, Richmond Co., N.S., Carboniferous rocks of, (79-80) pp. 67-68 F.
- River Tillard, Richmond Co., N.S., felsites of upper part of, (79-80) p. 9 F.
Carboniferous rocks of, (79-80) pp. 65-66 F.
- River Tom, Richmond Co., N.S., folding of Carboniferous limestones of, (78-80) p. 62 F.
- Rivière à la Graise, Rigaud, Que., section of Calciferous on, (1863) p. 112.
Trenton limestone on, (1863) p. 171.
analysis of clay from, (1863) p. 641.
note on stratified clays of, (1863) p. 917.
- Rivière à la Rose, Que., anticlinal axis in Laurentian at, (1863) p. 96.
petroleum in fossil corals of, (1863) p. 521.
- Rivière au Lard, Que., exposure of Trenton rocks on, (1863) p. 152.
- Rivière au Moulin, Que., Trenton limestone, dislocation in, mineral veins with galena, (1863) p. 161.
- Rivière aux Sables, Grey Co., Ont., fossils of Niagara Formation found at mouth of, (1863) p. 333.
sections of Hamilton Formation in Bosanquet Tp., Ont., (1863) pp. 382-384.
valley filled by brown clay, (1863) p. 900.
- Rivière aux Vases, Saguenay River, Que., limestone band on, (82-84) p. 11 D.
- Rivière Beaudette, Que., exposures of Trenton Group on, (1863) p. 172.
note on stratified clays of, (1863) p. 917.
- Rivière Brûlée, near Dunvegan, size of, at trail-crossing, (79-80) p. 52 B.
coal-seam on, (79-80) p. 118 B.
fossils obtained, list of, (79-80) p. 120 B.
- Rivière de l'Isle, Lochiel Tp., Glengarry Co., Ont., exposures of Trenton limestone, (1863) p. 172.
note on stratified clays of, (1863) p. 917.
- Rivière de la Vieille, Lake Superior, strike of gneiss at, slaty diorite at, (76-77) p. 219.
- Rivière des Aulnais, Que., rock quarried for millstones, note on, (1863) p. 807.
garnetiferous gneiss of, (82-84) p. 6 D.
limonite on, (82-84) p. 16 D.
- Rivière des Chutes, St. John River, N.B., section of terrace near mouth of, (82-84) pp. 31-32 GG.
- Rivière des Hurons, Que., Hudson River Formation exposed on, (1863) p. 209.

- Rivière des Lacs, International Boundary, 49th parallel, Assa., description by G. M. Dawson quoted, (79-80) p. 1 A.
examination of country and description of Souris Valley near, (79-80) pp. 2-3 A.
- Rivière des Mères, Que., width of limestones of Trenton Group on, (1863) p. 157.
- Rivière des Ours, Saguenay River, Que., exposures of Trenton limestone on, (82-84) p. 11 D.
- Rivière des Plantes, Que., note on concretionary epidotic rocks, (1863) p. 255.
microscopic structure of serpentine from, (80-82) p. 19 A.
- Rivière des Prairies, Que., the Chazy Formation exposed near mill, (1863) p. 131.
exposure of Lower Helderberg conglomerate at White Horse Rapids, (1863) p. 357.
- Rivière des Quinze, Ottawa River, Huronian slates on, (1863) p. 336.
- Rivière du Loup, Beauce, Que., Gaspé Series on, rocks exposed, (1863) pp. 428-429.
assay of gold-dust from, (1863) p. 520.
platinum and iridosmine found with gold at, (1863) p. 520.
note on gold washing, returns from, platinum found with gold, (1863) pp. 740-741.
flagstones, sandstones suitable for, (1863) p. 828.
note on gold workings of, (63-66) p. 62.
quartz veins in Linière Tp., (63-66) p. 70.
upper division of Potsdam at High Falls of, (66-69) E. p. 128, F. p. 143.
- Rivière du Loup Seigniory, (en bas) Que., peat-bog, area of, (1863) p. 783.
limestones and conglomerates of, Lauzon fossils, (66-69) E. p. 133, F. p. 148.
peat-bogs in, (66-69) E. p. 141, F. p. 157.
first and second divisions of Potsdam, (66-69) E. p. 129, F. p. 144.
rocks of Sillery division, south of, conglomerates, (1863) p. 259.
Leda clay deposits of, (1863) p. 921.
- Rivière du Loup Seigniory (en haut), Que., mineral wax in Trenton rocks, (63-66) p. 252.
- Rivière du Nord, Two Mountains Co., Que., the Potsdam sandstone of, (1863) pp. 94-95.
- Rivière du Sud, Que., area of Sillery rocks, (1863) p. 258.
- Rivière La Biche, Atha., and valley of, (79-80) p. 96 B.
- Rivière Ouelle, Que., sandstones above quartzites with *Serpulites*, (1863) p. 259.
analysis of coprolites from Quebec Group, (1863) p. 462.
description of mineral spring at, (1863) p. 541.
beds of jasper in Quebec Group on, (1863) p. 599.
note on bed of jasper at, (1863) p. 834.
Lower Potsdam Formation, phosphatic nodules in, (66-69) E. p. 125, F. p. 140.
reference to peat-bogs near, (66-69) E. p. 141, F. p. 169.
coprolitic fossils from, (76-77) p. 434.
- Rivière Ouelle Seigniory, Que., peat-bog in, area, (1863) p. 783.
- Rivière Rouge, surveyed by Sir Wm. Logan, 1858, (1863) p. 11 Atlas.
- Rivière St. Anne, Shickshock Mts., Que., microscopic structure of felspathic sandstone or grauwacke, (80-82) p. 23 A.
- Rivière Ste. Anne de Montmorency, section of Utica Formation near falls on, (1863) pp. 198-199.
- Rivière St. Esprit, Que., the Trenton Group exposed on, (1863) p. 145.
- Rivers, of British Columbia, general note on, (79-80) p. 3 B.
of northern Cape Breton Island, N.S., general note on characters of, (82-84) pp. 79-81 H.
of southern New Brunswick, note on, (70-71) p. 18.
of western peninsula of Ontario, (1863) p. 15.
and lakes surveyed by R. Bell and P. McKellar, 1870, (70-71) p. 325.
- Rivers Inlet, B.C., iron-ore reported, (76-77) p. 146.
- River valleys, of first and second prairie steppes, depth, antiquity of, mode of formation of, (74-75) pp. 46-47.
geological structure governing direction of, on Salmon River, B.C., (76-77) p. 63.
- ROACH and McINNIS, work done by, on Indian Cove seam, N.S., (74-75) p. 240.
- Road, from Cache Creek to Kamloops, B.C., description of, (77-78) p. 13 B.
from Lac La Biche to Athabasca River, (79-80) p. 96 B.
from Lac La Biche to Victoria, Alta., description of, (79-80) p. 97 B.
- Roasting copper-ore at Quincy mine, Mich., note on, (63-66) p. 162.
- Roasting iron-ore, note on advantages of, (73-74) p. 204.
- ROBB, C., information received from, (63-66) p. 6.
report on York, Carleton and part of Victoria Cos., N.B., (66-69) E. pp. 173-209, F. pp. 191-232.
work in New Brunswick during 1868, area examined, (66-69) E. p. 173, F. p. 191.
map of part of New Brunswick compiled by, difficulties in exploring, (66-69) E. p. 174, F. p. 192.
summary of work in 1868 in New Brunswick, (68-69) p. 6 Summ.
examination of gold discoveries in 1868, (68-69) p. 6 Summ.
note by A. R. C. Selwyn on work of, in New Brunswick in 1869, (69-70) p. 9 Summ.
work in 1869, lines surveyed, maps and plans prepared, (70-71) p. 241.
supplementary report on north-western New Brunswick, (70-71) pp. 241-251.
records of mines and mineral statistics for 1869-71, (71-72) pp. 147-154.
fossils collected by, 1872-73, (72-73) p. 2.

- ROBB, C.—*Cont.*
 summary of work during 1872 in Sydney coal-fields, N.S., (72-73) p. 238.
 report on Sydney coal-mines in operation, (72-73) pp. 238-289.
 report on explorations and surveys in Cape Breton, N.S., (73-74) pp. 171-183.
 summary of field-work in Cape Breton, in 1873, (73-74) p. 171.
 list of sections measured in Cape Breton, N.S., (73-74) p. 178.
 preliminary examinations of iron-mines at Whykokomagh, N.S., brine springs and coal-mines of Broad Cove and Mabon, Grand Narrows of Bras d'Or, (73-74) p. 179.
 note on collecting mining statistics, publication to the triennial, (73-74) p. 183.
 supplementary report on collieries in operation in Cape Breton, N.S., (73-74) pp. 184-188.
 report on surveys and explorations in Cape Breton, N.S., for 1874, (74-75) pp. 166-266, summary of field-work for 1874, acknowledgements for assistance, (74-75) p. 167.
 resignation from staff, (75-76) p. 7.
- ROBB, DR. JAMES, first geological map of New Brunswick by, reference to, (70-71) p. 21.
 report on coal-fields of New Brunswick referred to, (70-71) p. 22.
 map showing geology of Grand Manan Is., N.B., referred to, (70-71) p. 101.
- ROBBIN ranche, North Thompson River, B.C., outcrop of limestone at, (71-72) p. 62.
- ROBBINSON, MAINE, on St. Croix River, rocks exposed at, (70-71) p. 154.
 character of intrusive rocks at, (70-71) p. 188.
- ROBERT BRANCH, Cheticamp River, N.S., felsites and amygdaloidal trap, (82-84) p. 22 H.
- ROBERTS Bay, Ont., crystalline limestone band, referred to, (76-77) p. 196.
 crystalline minerals in limestone band, (76-77) p. 207.
- ROBERTSON Cove, Grand Lake, N.B., conglomerates and sandstones of, (72-73) pp. 211-212.
- ROBERTSON Point, Grand Lake, N.B., section of cliff on, (72-73) p. 212.
- ROBINS Brook, Percé, Que., conglomerate band concealed by beach, (1863) p. 438.
- ROBINSON Brook, N.B., distribution of Albert shales, (76-77) p. 362.
- ROBINSON Cove, Richmond Co., N.S., fossiliferous limestone of, (77-78) p. 19 F.
- ROBINSON Creek, Richmond Co., N.S., note on specular iron-ore deposit of, (82-84) pp. 91-92 H.
- ROBINSON Creek, Q.C.Is., B.C., report on coal-seams of, (72-73) p. 59.
 openings made for coal, (78-79) p. 74 B.
- ROBINSON Lake, Levant Tp., Ont., red hematite in gneiss, (74-75) p. 130.
- ROBINSON portage, Franklin River, near Oxford Lake, Keewatin, length of, fall in river and view at, (77-78) facing p. 5 CC.
- ROBINSON Station, Ont., C.P.Ry., hornblende-schist on Dog-tooth Lake, (80-82) p. 13 C.
- ROBINSON tunnels, Cowgitz, Q.C.Is., B.C., thickness of coal-seams, (78-79) p. 74 B.
- ROBSON, CAPT. J. P., information from, on Kingston Group, on Musquash River, N.B., (70-71) p. 124.
- ROBSON Peak, Grand Forks, Fraser River, B.C., note by A. R. C. Selwyn, (71-72) p. 44.
- ROCHE Capitaine, Ottawa River, moraine at, (1863) p. 895.
- ROCHE Fendue, Ottawa River, graphic granite exposed at, (1863) p. 36.
- ROCHE Percée, Souris River, Assa., eastern boundary of Tertiary rocks, (73-74) p. 84.
 boring at, date of commencement, (79-80) pp. 3-4 A.
- Lignite Tertiary sandstones of, (79-80) p. 17 A.
 note on fossil-plants from, (79-80) pp. 51-55 A.
 analysis of lignite-ash from, (79-80) pp. 6-7 H.
- ROCHE River, International Boundary, B.C., Lower Cretaceous rocks of, (82-84) p. 14 B.
- ROCHERS Deboulés Mountains, Skeena River, B.C., description of, height, (79-80) p. 16 B.
- ROCHES Rouges, Lake Superior, red granite of, (76-77) p. 219.
- ROCHESTER, N.Y., thickness of Niagara Formation at, (1863) p. 321.
- ROCHESTER iron-ore bed represented in section of Clinton Formation, near Dundas, Ont., (1863) p. 314.
- ROCHFORD Point, Louisburg Harbour, N.S., felsites of, (77-78) p. 8 F.
- ROCK channels of valley of Nelson River, followed by present streams, (77-78) p. 26 CC.
- ROCK Crest, International Boundary, B.C., gold on, (76-77) p. 143.
 black slates, metamorphic rocks, (82-84) p. 20 B.
 black slates of, (82-84) p. 30 B.
 placer workings in 1861, (82-84) pp. 35-36 B.
- ROCK disintegration, example at Conjuring House Rapid, Missinaibi River, Ont., (77-78) p. 7 C.
- ROCK elm, note on range of, in Canada, (79-80) p. 55 C.
- ROCK-fish Harbour, Selwyn Inlet, Q.C.Is., B.C., description and sailing directions for (78-79) p. 26 B.
- ROCK Harbour, Isle Royal, Lake Superior, analysis of greenstone from, (1863) p. 605.
- ROCK Island Gates, Peace River, Jurassic or Cretaceous fossils, (75-76) p. 96.
- ROCK Lake, Storrington, Ont., apatite rocks of, (72-73) p. 173.

Rock Lake—*Cont.*

- band of crystalline limestone, distribution of, (73-74) p. 105.
limestone band, part of Group V., Lanark, (74-75) p. 151.
- Rock masses in coal-seams in Nova Scotia, description by J. Rutherford, (74-75) pp. 201-203.
- Rock Rapid, Athabasca River, estimated fall, (82-84) p. 16 CC.
- Rock River, Vermont, outcrop of Birds-eye and Black River Formation near, (1863) p. 275.
- Rock River, St. Armand, Que., the Potsdam Group exposed on, relation of, to slates, (1863) p. 286.
additional notes on outcrop of white limestone on, (1863) p. 846.
- Rock salt, at Bay City, Mich., (76-77) p. 241.
found at Caseville, Huron Co., Ont., (76-77) p. 240.
in well at Clinton, Ont., (66-69) E. p. 212, F. p. 234.
in bore-hole at Goderich, Ont., (63-66) p. 269.
1st to 6th bed, (76-77) pp. 230-232.
analysis of, (76-77) p. 233.
specific gravity of, (76-77) p. 235.
in records of wells at Goderich and Kincardine, Ont., (74-75) pp. 285-286.
none north of Kincardine, Ont., (74-75) p. 286.
of Louisiana, U.S.A., (76-77) p. 237.
probable mining of, in Ontario, (74-75) p. 279.
in Virginia, U.S.A., (76-77) p. 237.
- Rockland, N.B., height of terrace in valley of Beccaguimic River, (82-84) p. 37 CG.
- Rockland fulling-mill, Pictou, N.S., analysis of decomposed iron-ore near, (66-69) E. p. 440, F. p. 492.
- Rockland slate quarry, Que., statistics for 1869-71, (71-72) p. 148.
- Rockwood, Ont., elevation of at Grand Trunk Railway station, (1863) p. 15.
Niagara Formation at probably on anticline, fossils of, building stone, (1863) p. 380.
note on outcrop of lower part of Guelph Formation east and north of, (1863) pp. 342-343.
note on examination of dolomite from Strange's quarry, (1863) p. 624.
columnar marking in limestone at, wood-cut showing, (1863) pp. 632-633.
band of hydraulic cement-stone, (1863) p. 806.
dolomite suited for building stone at, (1863) p. 821.
- Rocks, classification of crystalline igneous, varieties of, (1863) p. 645.
stratigraphical collections of, supplied from Survey, 1876-77, (76-77) p. 7.
eruptive or intrusive, note on theories of origin, (1863) p. 643.

Rocks—*Cont.*

- exotic, definition of term used, (1863) p. 647.
- Huronian, general description of, (1863) p. 594.
indigenous, definition of terms used, (1863) p. 647.
Laurentian, general description of, (1863) p. pp. 586-593.
metamorphic, general description of, (1863) pp. 569-586.
Palæozoic, descriptions of from Quebec, (1863) pp. 597-618.
general description of, from Ontario, (1863) pp. 618-642.
sedimentary, general description commencing at Laurentian, (1863) p. 586-642.
- Rocky Bay, Madame Island, N.S., the Devonian rocks exposed on shores of, with section south of Shaw Point, (79-80) pp. 38-40 F.
loose blocks of gypsum at, (79-80) p. 55 F.
iron-ore of, (79-80) p. 122 F.
- Rocky Bay, near Nanaimo, B.C., rocks at, (76-77) p. 175.
- Rocky Bay, Richmond Co., N.S., exposures of felsite rocks at, (79-80) pp. 4-5 F.
- Rocky Brook, George River, N.S., contact of marble with felsite, (75-76) p. 385.
- Rocky Brook, Miramichi River, N.B., slates near mouth of, (66-69) E. p. 192, F. p. 213.
- Rocky Brook, North-east Margaree River, N.S., pre-Cambrian rocks of, crystalline limestone, (82-84) p. 26 H.
- Rocky Brook, Nashwaak River, N.B., exposures on, (66-69) E. p. 190, F. p. 210.
discovery of fossils at The Stairs, (66-69) E. p. 190, F. p. 210.
list of species determined by E. Billings, (66-69) E. p. 190, F. p. 210.
- Rocky Buttes, Alberta, general description of, (82-84) p. 28 C.
- Rocky Islands, Long Reach, N.B., gneiss or felsphatic sandstone, (70-71) p. 116.
- Rocky Islets, Rocky Bay, Madame Island, N.S., Devonian conglomerates of, (79-80) p. 40F.
- Rocky Mountains, coal-mines of Colorado, Utah and Wyoming, extracts from report by Prof. Hodge, (73-74) pp. 54-56.
catalogue of plants collected in, (75-76) pp. 186-232.
rocks of compared with Coast Range, (76-77) p. 89.
at Pine River, width of range, (79-80) p. 44 B.
forming a shore-line in Cretaceous time (79-80) p. 113 B.
composition of on Peace River, (79-80) p. 130 B.
note on explorations and survey along eastern border of, (80-82) p. 2 B.
assays of ores from, for gold and silver, (80-82) p. 15 H. and (82-84) pp. 15-16 MM.
existence of coal-bearing basins in, announced, (82-84) p. 4.
general description of in southern British Columbia, (82-84) p. 8 B.

- Rocky Mountains—*Cont.*
 equivalence of beds in, near International Boundary, (82-84) p. 30 B.
 the Cretaceous and Laramie rocks of, (82-84) pp. 108-111 C.
 list of coal-seams in area of, (82-84) p. 131 C.
- Rocky Mt. House, Alta., latitude and longitude, general description quoted from Hector's report, section of rocks and fossil-plants, (73-74) p. pp. 45-56.
 section of river-bank at, (73-74) p. 47.
 lignite coal at, (73-74) p. 46.
 timber of Saskatchewan valley, (73-74) p. 47.
 three-foot coal-seam, characters and age of, (73-74) p. 48.
 boulders and pebbles of sandstone resembling Potsdam, no Archæan drift, (73-74) pp. 57-58.
 analysis of coal from seams near, (73-74) pp. 63-64.
- Rocky Mt. House to Edmonton, Alta., journal of A. R. C. Selwyn, (73-74) p. 41.
- Rocky Mountains Portage, Peace River, survey of by A. C. C. Selwyn, (75-76) p. 47.
 barometric heights on, (75-76) p. 47.
- Rocky Saugeen River, branch of Saugeen River, Ont., exposures of Guelph Formation and fossils found, (1863) p. 342.
- Rocky Spring Plateau, Alta., west of Sweet Grass Hills, section of beds composing, (82-84) p. 42 C.
 no drift on summit, height of Laurentian drift on sides of, (82-84) p. 148 C.
- Roderick Head, Boulardrie Island, N.S., section of Millstone Grit and Carboniferous limestone, (75-76) pp. 408-409.
- Roger Island, Oak Bay, St. Croix River, N.B., rocks of St. John Group and conglomerates, (70-71) p. 143.
- ROGERS, H. D., description of semi-anthraxes of Pennsylvania, (82-84) p. 43 M.
- Roix road, Charlotte Co., N.B., granite area crossed by, (70-71) p. 186.
- Roix Station, N.B., St. Andrew and Quebec Railway, grey gneisses, (70-71) p. 51.
 quartzites and mica-schists of, (70-71) p. 57.
- Rolette Tp., Que., microscopic structure of felspathic grauwacke from Lac au Crapaud, (80-82) p. 22 A.
- Romieux Tp., Que., copper-ore, localities for in, (63-66) p. 321.
- Roofing slates, rocks of Ontario and Quebec, suitable for, (1863) p. 830.
 rocks suitable for on Kaministiquia River and Nipigon Lake, Ont., (66-69) E. p. 363, F. p. 402.
 localities in southern New Brunswick for, (70-71) p. 235.
 at Pine Hill, St. Francis River, Que., (1863) p. 253.
 rock adapted for on Lac des Quinze, Ottawa River, (72-73) p. 132.
 statistics for Quebec for 1869-71, (71-72) p. 148.
- Root River, Ont., trials of copper-ores from (1863) p. 60.
 evidence of continuation of Thessalon fault, Huronian rocks found on, (1863) p. 62.
 note on copper-ores of, (1863) p. 697.
 Rankine copper-mine, rocks of vicinity of, (76-77) p. 212.
- Roots and barks formerly used as food by Indians of Queen Charlotte Island, B.C., (78-79) p. 114 B.
- Rory Chisholm Brook, Inverness Co., N.S., sandstone and conglomerate of, (79-80) p. 104 F.
- Rose Harbour, Houston Stewart Channel, Q.C. Is., B.C., description of, (78-79) p. 15 B.
 rocks, possibly Carboniferous, (78-79) p. 46 B.
 note on rocks of, fossils found, (78-79) pp. 49-50 B.
 glaciation of, (78-79) p. 90 B.
- Rose Hill settlement, Tête à Gauche River, N.B., manganese-stained slates of, (79-80) p. 25 D.
- Rose Point, Q.C. Is., B.C., character of coast south from, (78-79) p. 32 B.
 description of, dangerous shoals near, (78-79) p. 34 B.
 traditions connected with, gigantic beaver, (78-79) p. 153 B.
 to Masset, Q.C. Is., description of coast, (78-79) p. 34 B.
- Rose-bud Creek, Red Deer River, Alta., analysis of lignite from, (82-84) p. 15 M.
- Rosella Creek, B.C., altitude of, gold workings on, (76-77) p. 139.
- Rosevale, Albert Co., N.B., assay of copper-pyrites in quartz, etc., for gold and silver, (82-84) p. 5 MM.
- Rose's mine, Ross Tp., Ont., occurrence of molybdenite at, (82-84) pp. 8-9 L.
- Ross bridge, Pictou Co., N.S., section of rocks at, (66-69) E. p. 12, F. p. 13.
- Ross Brook and Ross Creek, West Bay, N.S., pre-Cambrian rocks of, (79-80) p. 15 F.
 crystalline limestone outlier on, (79-80) p. 18 F.
 contact of Carboniferous with pre-Cambrian, (79-80) p. 69 F.
- Ross farm, Acadia iron-mines, vein of iron-ore on, quality of, (72-73) p. 21.
 analysis of iron-ores from, (72-73) p. 30.
 analysis of limonite from, (73-74) p. 231.
- Ross Island, off Grand Manan Is., N.B., quartzites at Chalk Cove, (70-71) p. 109.
- Ross Island, Nelson River, Keewatin, length of, (77-78) p. 3 CC.
- Ross mine, Portland West, Que., apatite deposit, (82-84) p. 19 J.
- Ross seam, depth at International mine, N.S., (72-73) p. 256.
 on Lorway and Emery area, N.S., quality of coal, (72-73) p. 268.
 at Schooner Pond mines, N.S., description and analysis of, (72-73) p. 290.

- Ross seam—*Cont.*
 near Sydney, N.S., equivalent to main seam, (73-74) p. 179.
 or Emery seam, Glace Bay, N.S., section of, (74-75) p. 214.
 sections on east side of Schooner Pond and at North Head, Cow Bay, N.S., (74-75) pp. 217-218.
 section near Bridgeport, N.S., (74-75) p. 220.
 note on irregularity in thickness of, (74-75) p. 222.
- Ross Tp., Ont., vein of graphic granite in Roche Fendue channel of Ottawa River, (1863) p. 36.
 note on occurrence of apatite in, (1863) p. 461.
 note on crystals of tourmaline from, (1863) p. 493.
 spinel reported in, (1863) p. 499.
 fluor-spar reported in, (63-66) p. 202.
 note on apatite in, (63-66) p. 203.
 banded limestones of, (74-75) p. 144.
 extension of limestone in, (76-77) p. 246.
 band or trough of limestones in, (76-77) p. 256.
 sand drift in, (76-77) p. 266.
 sequence of rocks in, (76-77) p. 267.
 note on apatite mines in, (82-84) pp. 5-6 L.
 note on limestones of Ferguson's quarry and kilns, (82-84) p. 15 L.
- Rosseau Lake, Ont., good land around, (76-77) p. 196.
- Rossie, N.Y., rounded crystals of quartz in limestone of, (63-66) p. 189.
 lead-bearing veins in Laurentian of, (1863) p. 689.
- Rothsay Bay, Kennebecasis Bay, N.B., gneiss rocks of, (70-71) p. 40.
- Rouge River, Gaspé, Que., branch of Great Métis River, Gaspé Series on, (1863) p. 416.
- Rouge River, Ottawa Co., Que., albite vein on Lake of Three Mountains, (1863) p. 36.
 description of limestone bands on, (1863) p. 43.
 note on stratified clays of, (1863) p. 917.
 agricultural land of upper part of, (70-71) p. 7.
- Rougemont Mountain, Que., Hudson River shales exposed on east side of, (1863) p. 209.
 crystals of olivine in balsalt at, (1863) p. 464.
 titanic acid found in dolomites of (1863) p. 502.
 note on local metamorphism of limestones at, analysis of rock, (1863) pp. 634-635.
 note on dolerite of, (1863) p. 667.
- Rough-bark Creek, Souris River, Assa., sections near mouth of, (79-80) pp. 19-20 A.
- Rough Brook of River Inhabitants, Inverness Co., N.S., pre-Cambrian rocks of, (79-80) p. 13 F.
- Rough Waters, Nipisquit River, N.B., outlier of Bonaventure Formation on granite at, (1863) pp. 451-452.
 unconformity of Lower Carboniferous and granite on, (79-80) p. 8 D.
- Round Bay, Missinaibi River, Ont., cliffs of trap, schists, granite veins, (75-76) p. 332.
- Round Island, Montreal, conglomerate probably of Lower Helderberg age, (1863) p. 357.
- Round Island, Mira Bay, N.S., coal-seam, thickness of, (74-75) p. 179.
- Round Lake, Bonnetière River, Ont., great spread of gneiss near, (76-77) p. 258.
- Round Lake, Guysborough, N.S., note on character of rocks of, (79-80) p. 48 F.
- Round Lake, Levant Tp., Ont., mica-schist group at, (74-75) p. 126.
- Round Lake, River Blanche, Ont., slates and schists on, (72-73) pp. 129-130.
- Round Lake, Wabinoish River, Lake Nipigon, Ont., general and geological description, (71-72) p. 105.
- Round Mountain, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 10 H.
- Rounded crystals of apatite in veins, note on, (63-66) p. 190.
 of quartz, at Rossie, N.Y., (63-66) p. 189.
 in limestone beds of Laurentian, (63-66) p. 191.
- Route, from Dunvegan southward to Athabasca River, (79-80) p. 63 B.
 to Gods Lake, travelled by A. S. Cochrane, (78-79) p. 29 C.
 from Island Lake to Old Wife's Lake and Deer Lake, (78-79) p. 32 C.
 from Nelson River to Churchill River, description of, (78-79) p. 14 C.
 from Nipisquit River to Little Tobique or Nictor River, N.B., (79-80) p. 2 D.
 to Omineca gold district, B. C., (79-80) p. 110 B.
 from Oxford Lake to Island Lake, taken by A. S. Cochrane, (78-79) p. 30 C.
- Rouville Co., Que., *for general geology see Part I., p. 10.*
- Rouville Mountain, Que., intrusive rocks of, (1863) p. 209.
- Rowan-tree, note on range of in Canada, (79-80) p. 54 C.
 localities of occurrence in Nelson River valley, (78-79) p. 43 C.
- Roxburgh Tp., Ont., peat-deposits in noted, (1863) p. 780.
- Roxburg, Vt., analysis of nacreous shale from, (1863) p. 602.
 analysis of magnesian ophiolite from (1863) p. 611.
- Roxton Tp., Que., copper-ore localities in, (63-66) p. 304.
 variegated copper-ore from, (1863) p. 718.

- Royal Society of Canada, list of papers read by Survey officers in 1882, (80-82) p. 27.
- Ruins of Fort Prince of Wales, Churchill Harbour, Hudson Bay, viewsshowing, (79-80) facing p. 30 C.
- Ruisseau à Vallée, Gaspé, Que., Silerry and Lauzon rocks of, (80-82) p. 24 DD.
- Ruisseau Castor, Gaspé, Que., illustration showing coast at, (80-82) facing p. 24 DD.
- Ruisseau de la Grande Carrière, Gaspé, Que., exposures of Gaspé limestone, (1863) p. 406.
- Ruisseau des Roches River, Que., highest beds in quartzite series shown on (1863) p. 260.
- Ruisseau, Madame Island, N.S., Devonian rocks shales and quartzites, (79-80) p. 36 F.
- Runciman system of salt manufacture, description of, (74-75) p. 295.
- Ruperts House, James Bay, northern limit of white cedar near, (77-78) p. 25 C.
- Ruperts Land, explorations in 1870 by R. Bell, (70-71) p. 9.
- Rusagornis, N.B., purple beds overlain by conglomerates at, (72-73) p. 221.
- Rush Hill, N.B., Lower Carboniferous rocks of, (70-71) p. 212.
reddish-grey limestones, fossils in, (72-73) p. 191.
- Russell Tp., Ont., exposures of Trenton Group with section on Castor River, (1863) pp. 173-174.
Utica and Hudson River outlier, sandstones of Hudson River Formation, (1863) p. 219.
- Russell Co., Ont., *for general geology see Part I.*, p. 15.
- Russia, source of alluvial gold in, (63-66) p. 54.
- Rust-coloured rocks or fahlbands in Hastings Series, (76-77) p. 295.
- Rustico, P.E.I., rocks exposed on north shore, (82-84) p. 15 E.
- Rusty sandstone, cliffs of on Churchill River below forks, (78-79) p. 18 C.
- RUTHERFORD, J., reference to coal-seams at Victoria mine, N.S., (72-73) p. 253.
extract from report on pillar-working, ventilation, storage of coal and plans of coal-mines, Cape Breton Island, N.S., (72-73) pp. 291-295.
description of rock masses in coal-seams, (74-75) pp. 201-203.
- Rutherford Tp., Ont., rocks of, (76-77) p. 209.
- Rutile, mode of occurrence, (63-66) p. 214.
in apatite vein, Templeton, Que., (77-78) p. 35 G.
small quantities of found in Canada, (1863) p. 502.
found crystallized in veins with chlorite at Marmora, Ont., (70-71) p. 311.
- RUTLEDGE, WM., description of Gardiner mine, N.S., quoted, (72-73) p. 272.
- Ryan Brook, Lake Law Brook, N.S., pre-Cambrian rocks of, (82-84) p. 28 H.
- Ryan Brook, Queens Co., N.B., schists and slates exposed on, (75-76) p. 363.
- Rye-grass Flat, Old Man River, Alta., upturned beds of brackish-water origin, thickness of, (82-84) p. 68 C.
thickness and character of upper portion of Pierre shales at, (82-84) p. 115 C.
not compared with M. M. S coals not returned.
- St. Albans, Vt., relation of dove-grey limestone to Potsdam Group in vicinity of, Trenton fossils, (1863) pp. 857-858.
map showing geology of country north of, scale 2 miles = 1 in., (1863) Atlas.
- St. Albans Bay, Lake Champlain, Red Sand-rock of Vermont extends to, (1863) p. 281.
- St. Albert Mission, Alta., gardens at, (73-74) p. 38.
- Ste. Alexandre, Que., breadth of Silerry rocks at (66-69) E. p. 132, F. p. 147.
- St. Ambroise, Que., occurrences of Potsdam at, noted, (1863) p. 96.
Calceiferous wanting above Potsdam at, (1863) p. 119.
the Trenton limestones of, fossils found, (1863) p. 156.
- St. André, de Kamouraska, Que., quartzite bands near, (1863) p. 259.
Potsdam Formation of, (66-69) E. p. 126, F. p. 141.
- St. Andrews, Charlotte Co., N.B., unconformity between Mascarene and Perry rocks, (70-71) p. 201.
details of exposures of Perry sandstones, (70-71) p. 201.
list of fossil plants from Perry sandstone, (70-71) p. 202.
- St. Andrews, Man., notes on Silurian fossils from, (78-79) pp. 45-47 C.
list of fossils from limestone exposures on Red River, collected by R. Bell, 1880, (78-80) pp. 57-58 C.
- St. Andrews post-road, N. B., exposures of Kingston Group on, (78-79) p. 5 D.
- St. Andrew Channel, N.S., section of Lower Silurian rocks of east side, (75-76) pp. 388-392.
- St. Andrews and Quebec Ry., Charlotte Co., N.B., pre-Carboniferous rocks on, the dark argillite series, (70-71) p. 196.
- St. Angelique, Vaudreuil, Que., character of bog iron-ore of the Gillis property, analysis of, (73-74) p. 236.
- St. Annes, Victoria Co., N.S., note on scenery of, (82-84) p. 85 H.
marble of North River, (76-77) p. 427.
- Ste. Anne, Que., near Montreal, peculiarities of dolomitic conglomerate of, (1863) p. 626.
middle division of Potsdam in vicinity of, (66-69) E. p. 127, F. p. 142.
subordinate undulations in Potsdam near, section in hill west of, (66-69) E. p. 127, F. p. 142.

- Ste. Anne, Que.—*Cont.*
examination and analysis of olivine in dyke at, (77-78) p. 39 G.
- Ste. Anne, Kamouraska, Que., Lauzon outcrops on Potsdam rocks, (66-69) E. p. 132, F. p. 147.
- Ste. Anne, Saguenay River, Que., gneiss series at, (82-84) p. 6 D.
- Ste. Anne de Montmorency, Que., interstratified gneiss and limestone at Falls of St. Férol, (1863) p. 46.
section of Utica Formation on River Ste. Anne, (1863) pp. 198-199.
note on limonite and ochre deposits with analyses, (1863) pp. 511-513.
analysis of bituminous Utica shale, (1863) p. 622.
deposit of ochre described, (1863) p. 768.
- Ste. Anne de Montmorency River, Que., the Trenton Formation exposed on, (1863) p. 160.
the Utica and Hudson River Formations near, (1863) pp. 200-207.
- Ste. Anne de Monts, Que., terraces on shores of St. Lawrence, (1863) p. 921.
to Bay of Chaleurs, colored section, (1863) Atlas.
illustration showing sandstone pillars on coast east of, (80-82) facing p. 26 DD.
Map-sheet, of parts of Saguenay and Gaspé Cos., Que., issued in 1884.
- Ste. Anne de Monts River, Que., shales and conglomerates below Sillery division exposed on, reference to, (1863) p. 264.
lower black shales of Quebec Group on, (1863) p. 266.
- Ste. Anne de la Pêrade River, Que., level country along part of, (1863) p. 152.
- Ste. Anne des Plaines, Que., note on peat deposits near, (1863) p. 781.
- Ste. Anne de la Pocatière, Que., note on quartzites south of, (1863) p. 259.
character of mineral-water from spring in seigniory of, (1863) p. 542.
springs of different classes near each other, (1863) p. 562.
analysis of clay from, (1863) pp. 639-640.
manganese-ore found in vicinity of, (1863) p. 752.
- Ste. Annes Bay, Victoria Co., N.S., Lower Carboniferous limestone series of north shore, (82-84) p. 52 H.
copper-pyrites reported at, (80-82) p. 8.
- Ste. Annesfelsites, of Cape Dauphin district, Sydney, N.S., (75-76) p. 377.
- Ste. Annes Harbour, N.S., contact of syenite and Carboniferous, (75-76) p. 378.
pre-Cambrian rocks of east side of, (82-84) pp. 32-33 H.
note on copper deposits of, (82-84) p. 94 H.
- Ste. Anne Lake, Gaspé, Que., Gaspé sandstones and intrusive granites, (82-84) p. 21 E.
description of, (82-84) p. 7 F.
- Ste. Annes Mt., Cape Dauphin district, N.S., sections of strata east of, (74-75) pp. 252-261.
rocks derived from syenite of, (74-75) p. 258.
bedded or jointed syenite, (74-75) p. 258.
height of, (75-76) p. 370.
crystalline rocks of, (75-76) p. 377.
- Ste. Annes Mountain mine, N.S., assay of zinc-blende, galena and copper-pyrites from, (82-84) p. 3 MM.
- Ste. Anne Point, Ottawa River and St. Lawrence, Potsdam rock at, (1863) p. 91.
- Ste. Anne Point, Gaspé, character of rocks on coast, (80-82) p. 24 DD.
- Ste. Annes River, N.S., age of valley, (82-84) p. 50 H.
- Ste. Anne River, Gaspé, Que., Lévis beds west of, fossils from, (80-82) p. 25 DD.
note on occurrence of steatite at, (82-84) p. 20 F.
lithological description of porphyrite from south branch, (82-84) p. 21 F.
further explorations on, (82-84) p. 10 F.
Silurian rocks on, descriptions of outcrops of, (82-84) pp. 13-14 F.
Cambrian rocks on, (82-84) p. 15 F.
description of, fall in, character of country, (82-84) pp. 6-7 F.
- Ste. Anne River, Que., near Deschambault, exposures of Trenton limestone, (1863) pp. 152-153.
- Ste. Annes road, Cape Dauphin, N.S., grey syenite and hornblende gneiss, (75-76) p. 377.
- Ste. Anselm, Que., conglomerate bands on Etchemin River, (1863) p. 257.
- Ste. Antoine, Que., Hudson River shales and limestone, fossils at, (1863) p. 203.
- Ste. Armand, Que., metalliferous vein in lower black shales of Quebec Group, (1863) p. 240.
note on specular schists from, (1863) p. 679.
silver in galena of, (1863) p. 739.
attitude of Potsdam Group and contact with Phillipsburg Series, (1863) pp. 851-852.
diagrammatic section of Phillipsburg Series and Potsdam Group, showing contact at fault, (1863) p. 852.
coloured section to St. Jerome, Que., (1863) Atlas.
- Ste. Armand and Shipton syncline, altered rocks of Quebec Group on, (1863) p. 245.
- Ste. Armand Tp., Que., argentiferous galena vein noted in, (1863) p. 516.
note on galena localities in, (1863) p. 690.
deposits of marl near Phillipsburg, Que., (1863) p. 766.
note on marbles of vicinity of Phillipsburg, (1863) p. 826.
distribution of divisions C. and D., of Phillipsburg Series, (1863) p. 850.
diagrammatic section of rocks on lot 29, (1863) Atlas.

- St. Armand Tp., Que.—*Cont.*
map showing distribution of Quebec Group in, (1863) Atlas.
copper-ore localities in, (63-66) p. 295.
specular iron-ore in epidotic rocks, (80-82) p. 3 GG.
- St. Augustin, Que., Utica Formation, abutting on gneiss, Trenton beds of, (1863) p. 156.
Utica Formation exposed at, referred to, (1863) p. 201.
- St. Barbes Bay, Nfld., note on rocks of, (1863) p. 871.
- St. Benoit, Que., character of mineral-water at spring, (1863) p. 542.
- St. Catherines, Ont., fossils found in Medina sandstone at, (1863) p. 312.
depth of wells, analyses of water from two wells, (1863) p. 543.
note on superficial deposits of, (1863) p. 902.
analysis of mineral-water from, (63-66) p. 272.
- St. Charles, in Livaudière Tp., Que., limit of Sillery area reaches to, (1863) p. 258.
- St. Charles Brook, Grand Pré., Que., exposure of Trenton rocks at, (1863) p. 152.
- St. Charles Cove, Vaudreuil Seig., Que., quartz veins in, (63-66) pp. 71-73.
- St. Charles Seigniory, Que., mechanical examination and analysis of soil, (1863) pp. 138-140.
- St. Charles River, Que., Trenton resting on gneiss, (1863) p. 157.
breadth of Utica Formation on, (1863) p. 201.
- St. Clair River, Ont., superficial deposits near, (1863) p. 901.
- Ste. Claire, Que., width of Lauzon band, (66-69) E. p. 134, F. p. 149.
- St. Croix Cove, Bay of Fundy, amygdaloid with veins of laumonite, (82-84) p. 25 L.
- St. Croix River, N.B., gneisses at mouth of Dennis Stream, (70-71) p. 55.
Mascarene Series exposed about mouth of, (70-71) pp. 152-153.
dark gray syenite on, (70-71) p. 187.
upper series of pre-Carboniferous rocks, pale argillite series, (70-71) p. 197.
Upper Silurian rocks of, (76-77) pp. 327-331.
moraines in valley of, (82-84) pp. 9-10 GG.
- St. Croix Seigniory, Que., dark shales of Quebec Group, probably covered by drift, (1863) p. 239.
- St. Cuthbert, Que., sandstone of used for millstones, (1863) p. 808.
rocks suitable for flagging, (1863) p. 829.
- St. Davids, Ont., spring from Medina Formation containing sulphuric acid, (1863) p. 352.
- St. Davids Parish, Charlotte Co., N.B., exposures of granite, etc., (70-71) p. 51.
- St. Dennis, Que., fossils from Potsdam conglomerate, (66-69) E. p. 130, F. p. 145.
- St. Dominique, Que., the Deschambault anticline in, Trenton Group exposed by, fossils of, (1863) p. 205.
mechanical examination and analysis of soils from, (1863) pp. 638-640.
peat deposits of, (1863) p. 783.
analysis of peat from, (1863) p. 642.
note on limestone quarries at, (1863) p. 820.
limestone used as gray-marble, (1863) p. 826.
- St. Dominique, Saguenay River, Que., labradorite rocks near, (82-84) p. 8 D.
- Ste. Elizabeth, Vaudreuil, Que., character of bog-ore, (73-74) p. 236.
- St. Esprit, Richmond Co., N.S., character of country, gneiss rocks near, (77-78) p. 10 F.
outlier of slate, probably Lower Silurian, (77-78) p. 16 F.
- St. Etienne Tp., Que., peat bogs in, (1863) p. 782.
- St. Eustache, Que., Calciferous exposed near, characteristic fossils of, (1863) p. 114.
note on mineral spring in, (1863) p. 543.
- St. Féréol, falls of, on Ste. Anne de Montmorency River, Que., gneiss and limestone interstratified, (1863) p. 46.
- St. Flavien, Que., red shales and amygdaloidal diorite with copper-ores, (1863) pp. 241-242.
veins of anthraxolite in rocks of, (1863) p. 525.
copper-bearing dioritic rocks, (1863) p. 719.
- St. Francis, Beauce, Que., analysis of actinolite from, (1863) p. 466.
analysis of agalmatolite from near Famine River, (1863) p. 485.
note on garnet rock of, analysis of, (1863) p. 496.
note on ilmenite of, analysis of, (1863) p. 501.
arsenical ores found on Chaudière River, (1863) p. 505.
magnetic pyrites found with other ores in, (1863) p. 514.
character of gold obtained at, specific gravities, silver alloy, (1863) pp. 519-520.
analysis of diorite from, (1863) p. 603.
note on gold-bearing quartz veins, (1863) p. 739.
magnetite and ilmenite in, (73-74) p. 206.
- St. Francis furnaces, Yamaska, Que., cost of labour at, (73-74) p. 243.
dimensions, charge, production, force employed, (73-74) p. 249.
- St. Francis iron-mines, Yamaska, Que., statistics for 1869-71, (71-72) p. 148.
- St. Francis Lake, Que., height and area, (1863) p. 4.
clays of vicinity, not gold producing (63-66) p. 66.
Gaspé Series exposed on, (1863) p. 429.
andalusite in argillites of, (1863) pp. 499, 617.
- St. Francis mine, Cleveland Tp., Que., note on veins, reference to description of rocks, (1863) p. 723.
extent of workings, (63-66) p. 38.

- St. Francis Rapids, Chaudière River, Que., argentiferous galena, results of assay, (1863) pp. 516-517.
- St. Francis River, Que., area of red shales on, (1863) p. 206.
- lower dark shales of Quebec Group, (1863) p. 238.
- rocks of Quebec Group exposed near Drummondville, (1863) p. 242.
- the Quebec Group in Ascot Tp., (1863) p. 252.
- Gaspé Series exposed on, (1863) p. 426
- slates exposed between Aylmer and St. Francis Lakes, (1863) p. 430.
- clay-slates of Gaspé Series on, (1863) p. 436.
- quartz-veins in slates, gold-bearing, (1863) p. 437.
- report on gold of, by A. Michel, (63-66) pp. 62-66.
- St. Gédéon Tp., Saguenay, Que., labradorite area north-east of, (82-84) p. 8 D.
- occurrence of ilmenite noted, (82-84) p. 9 D.
- Ste. Geneviève, Montreal Island, Que., building stone obtained in quarry of Chazy Formation, (1863) p. 131.
- note on mineral springs in, reference to analysis of water, (1863) p. 544.
- analysis of mineral-water from two springs, (1863) p. 548.
- Ste. Geneviève Island, Lake St. Louis, Que., *Scolithus* and *Protiehnites* in sandstone of, (1863) p. 91.
- height of Potsdam track-beds above Lake St. Peter, (1863) p. 109.
- Ste. Geneviève Island, Gulf of St. Lawrence, Calciferous Formation exposed at, fossils of, (1863) pp. 119-121.
- St. George, Charlotte Co., N.B., Huronian rocks of, (70-71) p. 83.
- Kingston group of rocks of, section, (70-71) p. 127.
- St. George Parish, N.B., gravel ridges in, (77-78) p. 13 EE.
- St. George Cove, Gaspé, Que., traces of petroleum noted at, (1863) p. 789.
- St. George Lake, Olden Tp., Ont., band of crystalline limestone at, (73-74) p. 105.
- St. George mine, Cumberland, N.S., distance of coal-seams above conglomerate, (73-74) p. 165.
- St. Gervais, Que., exposures of Potsdam in vicinity of, (66-69) E. p. 121, F. p. 136.
- St. Gervais road, L'Ardoisière, Que., width of Sillery band, (66-69) E. p. 134, F. p. 149.
- St. Gervais Seignior, Que., Sillery Formation in, (1863) p. 257.
- St. Giles Seignior, Que., copper-bearing rocks in Ste. Marguerite range, conglomerate bands, (1863) p. 257.
- notes on copper-ore of, localities in (1863) p. 730.
- gold and vitreous copper in quartz, (63-66) p. 69.
- copper-ore localities in, (63-66) p. 320.
- St. Grégoire, Que., exposure of Utica shales with fossils, (1863) p. 205.
- St. Helen Island, Que., probable syncline in Utica shales at, (1863) p. 207.
- description of deposit of Lower Helderberg Formation, dolerite dykes cutting conglomerates, fossils found, (1863) pp. 355-356.
- dolomitic conglomerate of (1863) p. 457.
- peculiarities of dolomitic conglomerate of, (1863) p. 626.
- St. Helen Lake, Portland West Tp., Ottawa Co., Que., yellowish-green garnets, (82-84) p. 11 J.
- St. Henri de Lévis, Que., analysis of petrosilex from falls of Etchemin River, (1863) p. 599.
- magnesia in shales of, partial analysis, (1863) p. 601.
- anticline in Quebec Group at, (1863) p. 238.
- native-copper found in rocks at, (1863) p. 720.
- St. Hilaire, Que., mechanical examination and analysis of soils from, (1863) pp. 638, 640.
- St. Hyacinthe, Que., Hudson River shales and limestones exposed, (1863) p. 209.
- dykes of dolerite cutting strata at, (1863) p. 210.
- character of mineral spring at, (1863) p. 544.
- mechanical examination and analysis of soils from, (1863) pp. 638 and 640.
- deposit of marl in, noted, (1863) p. 766.
- St. Hyacinthe Co., Que., for general geology see *Part I*, p. 11.
- St. Ignace Island, Lake Superior, note on wrinkles on surface of trap, with diagram, (1863) pp. 71-72.
- diagram showing intersection of greenstone dykes on, (1863) p. 73.
- crystals of calcite referred to, (1863) p. 454.
- agates of, referred to, (1863) p. 506.
- explorations and mining, native-copper, native-silver of, (1863) p. 706.
- rocks similar to on east shore of lake, (63-66) p. 136.
- St. Janvier, Que., note on peat deposits near, (186) p. 781.
- St. James Parish, Charlotte Co., N.B., pre-Carboniferous rocks of the dark argillite series, (70-71) p. 196.
- upper or pale argillite series of pre-Carboniferous, (70-71) p. 198.
- gravel ridges and kames in, (77-78) p. 13 EE.
- St. Jean Baptiste, Que., Hudson River Formation exposed near, (1863) p. 209.
- St. Jean Deschailions, Que., brick-clay, stratified clay resting on sands, (1863) p. 921.
- St. Jean Port Joli, Que., character of soil and analysis of, (1863) pp. 639-640.
- section of Lower division of Potsdam, (66-69) E. p. 123, F. p. 138.
- St. Jérôme, Que., anorthosite rocks of, general description, (1863) p. 33.
- interstratified orthoclase and labradorite, (1863) p. 36.

- St Jérôme, Que.—*Cont.*
 course of Potsdam band towards St. Maurice River, Que., (1863) p. 95.
 limestones of containing chondrodite, (1863) p. 465
 tourmaline associated with zircon, (1863) p. 493.
 zircon crystals reported at, (1863) p. 499.
 peat deposits near, (1863) p. 781.
 garnet rock referred to as abrasive material, (1863) p. 807.
 relation of Morin and Grenville limestone bands to anorthosites of, (1863) p. 838.
 anorthosites flanking limestone bands, (1863) p. 838.
 coloured section of rocks through (1863) Atlas.
 analysis of ilmenite from, (73-74) p. 227.
 assay of pyrites from, (76-77) p. 482.
 notice of discovery of iron-ore near, (79-80) p. 3.
- St. Joachim, Que., analysis of sandstone from, (1863) p. 478.
- St. John, N.B., narrow belt of Huronian rocks at, (70-71) p. 61.
 relations of St. John Series to Coldbrook Series, (70-71) p. 136.
 the St. John Group, section of in the city, (70-71) p. 136.
 Devonian rocks seen at low tide, (70-71) p. 174.
 fault passing north of city, (70-71) p. 180.
 phosphatic nodules from Menevian rocks of, (76-77) p. 434.
 erosion at falls on river, (77-78) p. 19 EE.
- St. John, Peace River. Atha., Selwyn party at, (75-76) p. 50.
 fine country lying north of, (75-76) p. 51.
 latitude and variation of compass at, (75-76) p. 51.
 vegetables grown by Nigger Dan at, (75-76) p. 55.
 first frost in autumn of 1875, (75-76) p. 61.
 section of Mesozoic rocks, (75-76) pp. 72-73.
 extracts from Journal of Hudson's Bay Co. on weather from 1865-1875, (75-76) pp. 84-85.
 luxuriant vegetation, great extension of rich soil, etc., (75-76) pp. 154-155.
 dates of opening and closing of navigation on Peace River from 1866-1875, (75-76) p. 156.
- St. John, Dorchester, Que., attitude of Trenton beds, fossils found, (1863) p. 140.
- St. John Co., Que., *for general geology see Part I., p. 11.*
- St. John Co., N.B., arrangement of Laurentian rocks in belts, (70-71) p. 29.
 Coldbrook Group of rocks in, (70-71) pp. 60-65.
 Coastal Group of Huronian in western part, (70-71) pp. 94-97.
 in eastern part, (70-71) pp. 97-100.
 details of St. John Group in, (70-71) pp. 135-140.
 area of Triassic Red Sandstone in, (70-71) p. 217.
- St. John Co., N.B.—*Cont.*
 localities for copper-ores in, (70-71) pp. 226-226.
 limestones for lime-burning, (70-71) p. 231.
 pre-Silurian rocks of eastern part, (77-78) pp. 1-13 D.
 report on Huronian and Cambrian of, (77-78) pp. 1-34 DD.
 travelled boulders in, (77-78) p. 2 EE.
 table of divisions of formations in, (77-78) p. 2 DD.
 comparative sections of Kingston Series in, with that of Charlotte and Kings Cos., (77-78) p. 6 E.
 geological report and résumé of geology of, with map, (78-79) pp. 1-26 D.
for general geology see also Part I., pp. 6-7.
- St. John Group of New Brunswick, note on, (63-66) p. 235.
 thickness and characters of, (70-71) p. 23.
 discovery of fossils in 1865, (70-71) p. 25.
 shales resembling, near Goodling Landing, St. John River, (70-71) p. 72.
 history, age, organic remains, (70-71) p. 134.
 thickness, overturns, distribution, (70-71) p. 135.
 details of exposures in St. John Co., N.B., (70-71) pp. 135-140.
 in City of St. John, N.B., relation to Huronian and Devonian, (70-71) p. 137.
 details in Kennebecasis valley, (70-71) pp. 140-141.
 details in northern Kings Co., N.B., (70-71) pp. 141-142.
 details in Wicklow Parish and Queens Co., (70-71) p. 142.
 details in Nerepis valley, (70-71) p. 142.
 details in Charlotte Co., N.B., (70-71) p. 143.
 of Charlotte Co., (76-77) p. 342.
 additional observations on, (77-78) pp. 28-34 DD.
- St. John Harbour, N.B., to Musquash Harbour, Bloomsbury Group, Huronian, exposed on coast, (70-71) p. 60.
 extent of harbour, rocks exposed at, (70-71) p. 170.
 fault running through, (70-71) p. 179.
 deposits of peat in vicinity of, (77-78) p. 33 EE.
- St. John Lake, Que., the area of Lower Silurian at, description of and fossils found, (1863) p. 164.
 outlier of Utica in valley of Saguenay and Hudson River rocks of Snake Island, (1863) p. 220.
see also Lake St. John.
- St. John Point, Hornby Island, B.C., Upper Conglomerates at, (72-73) p. 50.
- St. John River, Gaspé, Que., note on oil-springs on, (1863) p. 403.
 exposures of Gaspé Series on, fossils in, (1863) pp. 409-410.
 oil-spring referred to, (1863) p. 521.
 description of and fall from Forks to mouth as given by A. Murray, (80-82) pp. 11-12 DD.

- St. John River, N.B., Gaspé Series exposed on upper part in Quebec and Maine, (1863) pp. 426-427.
method of examination of, adopted by Chas. Robb, (66-69) E. p. 173, F. p. 191.
character of country underlain by slates, etc., (66-69) E. p. 187, F. p. 207.
outlier of Carboniferous rocks on upper part of, (66-69) E. p. 188, F. p. 208.
granite band on upper part, (66-69) E. p. 195, F. p. 216.
non-calcareous slates north-west of granite area, (66-69) E. pp. 195-198, F. pp. 217-219.
crystalline rocks and mica-schists of, (66-69) E. p. 196, F. p. 218.
occurrence of copper-ore near Woodstock, N.B., (66-69) E. p. 206, F. p. 229.
greywacke system of Gesner as exposed on, (70-71) p. 20.
Laurentian of west side of, (70-71) p. 41.
granite and gneiss bands of York Co., (70-71) pp. 245-247.
isolated granite areas in gneissoid band, York Co., N.B., (70-71) p. 246.
exposure of Lower Carboniferous below Long Island, (72-73) p. 190.
fault in pre-Carboniferous rocks at south boundary of Queens Co., (75-76) p. 358.
fertility of alluvial flats, (77-78) p. 36 EE.
general physical features of, age, area of water-shed, (82-84) pp. 6-7 GG.
the drift deposits of, (82-84) p. 12 GG.
sections of terraces on, in order from Woodstock upwards, (82-84) pp. 28-37 GG.
width of at various places from Woodstock to Grand Falls, (82-84) pp. 28-37 GG.
description of kames in valley, (82-84) pp. 21-23 GG.
- St. John shales, Peace River, (75-76) p. 74.
- St. John Map-sheet, of part of St. John and Kings Cos., N.B., scale 4 miles = 1 in., (78-79) accompanying Part D.
- St. Joseph Seigniory, Beauce, Que., lower black shales in, (1863) p. 241.
note on concretary epidotic rock in, (1863) p. 255.
rocks probably of the Sillery Formation, (1863) p. 256.
epidote of, referred to, (1863) p. 498.
example of granite-gneiss in Palæozoic area, (1863) p. 600.
copper-ores found in, localities noted, (1863) p. 731.
gneiss used for mill-stones quarried near, (1863) p. 808.
gneiss of, as building stone, note on, (1863) p. 811.
note on serpentines of, (1863) p. 825.
note on red marble of, (1863) p. 826.
copper-ore localities in, (63-66) p. 521.
- St. Joseph's College, Memramcook, N.B., distribution of Albert shales at, (76-77) p. 371.
- St. Joseph Island, Lake Huron, Ont., Huronian rocks on part of, (1863) p. 63.
position of sandstone, (1863) p. 84.
- St. Joseph Island Lake Huron, Ont.—*Cont.*
note on exposures of Trenton Group, sandstones probably same as at Sault Ste. Marie, (1863) p. 196.
Utica Formation passes across, (1863) p. 217.
Hudson River rocks on, (1863) p. 219.
beaches on small island near, at elevation of 100 feet, (1863) p. 912.
map of, scale 8 miles = 1 in., (1863) Atlas.
topography and geology of, (66-69) E. pp. 109-117, F. pp. 123-132.
physical description of, (66-69) E. p. 110, F. p. 124.
Clinton Formation of, (66-69) E. p. 114, F. p. 128.
- St. Julien, Que., composition of ilmenite from, (73-74) p. 227.
analysis of iron-ore from, (76-77) p. 474.
- St. Lawrence area, Picton coal-field, N.S., black shales of, (66-69) E. p. 41, F. p. 46.
evidence of middle syncline, (66-69) E. p. 42, F. p. 47.
conglomerates in, (66-69) E. p. 43, F. p. 48.
- St. Lawrence coal-seam, Picton, N.S., section in shaft, (66-69) E. p. 42, F. p. 47.
possible equivalent of, (66-69) E. p. 43, F. p. 48.
- St. Lawrence and Champlain fault, course of, in Canada, (1863) p. 234.
course of, as traced by A. R. C. Selwyn, (77-78) p. 4 A.
- St. Lawrence River, physical geography of basin, with notes on mountain ranges and lake basins, (1863) pp. 1-18.
note on slope of valley and fall in tributaries, (1863) pp. 7-8.
note on navigation of rapids and canals of, (1863) p. 10.
water of, general examination and analysis, (1863) pp. 566-568.
note on occurrence of black-sands on shores of, (66-69) E. p. 262, F. p. 290.
report on north shore below Quebec, by James Richardson, (66-69) E. pp. 305-311, F. pp. 337-344.
note on impurities and hardness of water of, (78-79) p. 12 C.
- St. Lawrence and Ottawa plateau, Ont., general description with heights, (1863) p. 8.
- St. Lawrence steamers, practical trial of Acadia coal of Nova Scotia on, (66-69) E. p. 401, F. p. 445.
- St. Léon, Que., note on mineral spring, (1863) p. 544.
analysis of mineral-water, (1863) p. 548.
- St. Lin, Que., breadth of Calciferous band near, (1863) p. 114.
Chazy Formation at, intercalated beds of trap, red spots in limestone, (1863) p. 133.
the Trenton Group exposed in the vicinity of, (1863) p. 145.
limestone for building purposes at, (1863) p. 818.
limestone giving reddish marble when polished, (1863) p. 826.

- St. Louis, Missouri, deep well bored at, (74-75) p. 4.
- St. Louis Lake, *see* Lake St. Louis.
- St. Louis Mine, Buckingham Tp., Que., graphite of, (63-66) p. 25.
- St. Louis Mountain, Que., north of Bay of 'Chaleurs, narrow fringe of Devonian rocks on, (80-82) p. 11 D.
- St. Louise settlement, Gloucester Co., N.B., character of Cambro-Silurian rocks of, (79-80) p. 23 D.
- Ste. Marguerite, St. Giles Seigniory, Que., copper-ores in, note on veins, (1863) p. 730.
- Ste. Marguerite de Dorchester, Que., western end of trough of Sillery rocks, (66-69) E. p. 134, F. p. 149.
- St. Margaret River or Rivière Marguerite, Que., labradorite rocks at falls on, (66-69) E. p. 307, F. p. 339.
- Ste. Marie, Seigniory Beauce, Que., conglomerate bands in, (1863) p. 257.
analysis of talcose shale from, (1863) pp. 601-602.
note on copper-bearing beds and veins, (1863) p. 730.
manganese-ores found in, character of the ore, (1863) p. 752.
Sillery rocks of, (1863) p. 257.
copper-ore localities in, (63-66) p. 321.
- Ste. Marie de Monnoir Seigniory, Que., peat bog in, noted, (1863) p. 783.
- St. Martin, Que., band of Chazy Formation near, (1863) p. 131.
- St. Martine, Que., note on mineral spring, character of water, (1863) p. 544.
- St. Martin Lake, Man., length of, character, rocks exposed, (74-75) p. 38.
- St. Martin and Upham Ry., N.B., section of pre-Silurian on, (77-78) pp. 18-19 DD.
- St. Mary, Blanchard Tp., Ont., elevation at G.T. Ry. station, (1863) p. 15.
Corniferous rocks exposed at, fossils found, (1863) p. 377.
note on building stone of, (1863) p. 821.
clays for making white bricks noted, (1863) p. 898.
Thames well in Corniferous Formation, (63-66) p. 249.
- St. Mary River, Alta., width of disturbed belt on, (80-82) p. 3 B.
sections of coal-seams exposed on, continuation of Coal Banks seam, (80-82) p. 10 B.
general description of upper part, (82-84) pp. 20-23 C.
subdivision of Laramie, illustration showing rocks of on Old Man River, (82-84) facing p. 24 C.
descriptive geology of, with sections and characteristic fossils, (82-84) pp. 54-60 C.
Laramie rocks of, (82-84) pp. 54-58 C.
Pierre shales of, coal-seams in, sections, (82-84) pp. 59-60 C.
- St. Mary River, Alta.—*Cont.*
boulder-clay exposures, overlying quartzite drift of, (82-84) p. 60 C.
section of Pierre at mouth of, (82-84) p. 69 C.
comparative sections of coal-seams, (82-84) facing p. 72 C.
list of coal outcrops with thickness of seams, (82-84) p. 130 C.
boulder-clay coloured reddish from rocks of Willow Creek beds, (82-84) p. 143 C.
analysis of lignitic coal from near mouth of, (82-84) pp. 31-32 M.
- St. Mary River, Ont., sandstone of, note on distribution and outline of outcrop, (1863) p. 84.
surface-deposits of valley, terraces, (1863) p. 906.
map showing Huronian area north of, scale 8 m. = 1 in., (1863) Atlas.
- St. Mary River Series, beds on north branch Milk River, Alta., (82-84) p. 36 C.
beds on St. Mary River, Alta., sections and fossils of, (82-84) pp. 56, 58 C.
on Waterton River, Alta., estimate of thickness of beds, (82-84) p. 66 C.
on Old Man River, Alta., fossils from beds of, (82-84) pp. 67-68 C.
thickness of beds on Pincher Creek, Alta., (82-84) p. 98 C.
general characters, thickness, reference to fossils of, (82-84) p. 114 C.
general note on characters of, (80-82) p. 5 B.
on Little Bow River, Alta., note on, (82-84) p. 80 C.
- St. Mary road, Pictou, N.S., sandstone ridge on, (66-69) E. p. 46, F. p. 52.
- St. Mary suburbs, Montreal, skeleton of seal found in Leda clay, (1863) p. 920.
- St. Maurice, Que., bog-iron ores of, carrying manganese oxide, (1863) p. 507.
note on sandstone used in furnaces, (1863) p. 799.
manufacture of axes at, (73-74) p. 248.
- St. Maurice forges, Que., analysis of limonite from, (1863) p. 511.
limonite deposits of vicinity, (1863) p. 685.
production, charge, consumption of charcoal, (66-69) E. p. 256, F. p. 284.
analysis of iron and average daily output, (66-69) E. p. 257, F. p. 284.
analysis of bog-ore from, (73-74) p. 237.
cost of labour at, (73-74) p. 243.
cost of ore at furnaces, (73-74) p. 244.
size of furnace, charge, fuel used, charring ovens, yield of ore, analysis of iron, (73-74) pp. 247-248.
cost of ore and flux, (73-74) p. 248.
note on attempt to smelt magnetic ore, (73-74) p. 248.
duration of blast, value of pig produced, (73-74) p. 248.
analysis of gray pig-iron, (73-74) p. 248.
statistics for 1869-71, (71-72) p. 148.
- St. Maurice Co., Que.:—
for general geology see Part I., p. 11.

- St. Maurice River, Que., the Potsdam sandstone exposed on, (1863) p. 95.
the Trenton Group exposed on, (1863) p. 152.
the exposure of Utica Formation at Pointe à la Hache, (1863) p. 204.
note on peat-bogs on, (1863) p. 782.
sandstone used for furnace lining, (1863) p. 814.
breadth of sand-covered country on, (1863) p. 924.
work by A. Webster on head-waters of, (69-70) p. 8 Summ.
canoe route to head-waters of Lake St. John, (70-71) p. 285.
above Kirkendatch, Laurentian rocks of, (70-71) p. 290.
character of country on upper waters, (70-71) p. 300.
to Assomption River, distribution of gneisses, syenites and norites, (79-80) pp. 4-5.
- St. Nicholas, Que., the Hudson River Formation at, (1863) p. 203.
gap in section at, (1863) p. 241.
note on occurrence of parophite, (1863) p. 484.
analysis of agalmatolite from, (1863) p. 485.
fossils found in sandy clay at, (1863) p. 921.
list of post-Tertiary fossils found at, (1863) pp. 926-928.
- St. Norbert to Lac Pin Rouge, Que., character of syenite area, (79-80) pp. 4-5.
- St. Ours, Que., mineral spring found at locks, reference to analysis of, (1863) p. 544.
analysis of mineral-water from, (1863) p. 550.
- St. Pacome, Que., rocks of Lauzon overlying Potsdam Formation at, (66-69) E. p. 132, F. p. 147.
- St. Pascal, Kamouraska, Que., on road south-eastward, rocks exposed, (66-69) E. p. 138, F. p. 154.
- St. Patrick Parish, Charlotte Co., N.B., grey gneisses of, (70-71) p. 51.
quartzites and mica-schists in, (70-71) p. 57.
upper or pale argillite series of pre-Carboniferous, (70-71) p. 198.
gravel ridges and kames in, (77-78) p. 13 EE.
- St. Patrick Channel, N.S., limestone of, (76-77) p. 438.
- St. Paul Bay, Nfld., limestones in contact with Laurentian at, (1863) p. 878.
- St. Paul, Que., exposures of the Trenton Group at, (1863) p. 149.
- St. Paul Island, Montreal, Utica shale forming mass of, (1863) p. 207.
- St. Paul Portage, Missinaibi River, Ont., character of gneiss, dyke holding molybdenite and pyrites, (75-76) p. 334.
- St. Peter, N.S., diorite and limestone with galena at, (77-78) p. 18 F.
explorations for coal in vicinity of, (79-80) p. 117 F.
brick-clay of vicinity, (79-80) p. 125 F.
- St. Peter Canal, N.S., excavated in trap, etc., (77-78) p. 19 F.
stone used in making walls, (77-78) p. 32 F.
- St. Peter Gully, Souris River, Assa., section of strata, (79-80) p. 6 A.
- St. Peter Island, St. Peter Bay, N.S., Devonian rocks on main shore near, (77-78) p. 17 F.
- St. Peter Lake, height above tide, note on, (1863) p. 109.
Leda clay in bed of, (1863) p. 920.
- St. Peter Map-sheet, N.S., issued 1884, scale 1 m. = 1 in.
- St. Peter road, Richmond Co., N.S., Laurentian rocks, (76-77) pp. 416, 418, 423.
Devonian rocks on, (77-78) p. 22 F.
rocks near McLeod's bridge and the Kemp road, (79-80) p. 92 F.
- St. Peter road, near Hawkesbury, N.S., Naiadites shales, (79-80) p. 92 F.
- St. Pie, Que., evidence of Deschambault anticline, dove-grey limestone at, (1863) p. 206.
- St. Pierre, Montmagny Co., Que., Potsdam exposures at, (66-69) E. p. 122, F. p. 136.
- St. Raphael, Que., exposures of Potsdam in vicinity of, (66-69) E. p. 122, F. p. 136.
rocks exposed on road south-east from, (66-69) E. p. 136, F. p. 151.
- St. Roch, Que., Lower Potsdam limestones, fossils of, (66-69) E. p. 125, F. p. 139.
- St. Roch des Aulnaies, Que., middle division of Potsdam in vicinity, (66-69) E. p. 127, F. p. 142.
- St. Roch l'Achigan, Que., crystals of augite and apatite recorded, (1863) p. 461.
- St. Ronan Mountain, Que., note on formation of, situation, (1863) p. 3.
- St. Roque, Que., black shales and limestones exposed at, fossils found, (1863) p. 146.
- Ste. Rosalie, Que., analyses of limestone from Chazy or Trenton Group, (1863) pp. 620-621.
- Ste. Scholastique, Que. Potsdam sandstone band separated from that at Mt. Calvaire, (1863) p. 95.
distribution of Calciferous from, (1863) p. 115.
sandstone suitable for glass making at, (1863) p. 800.
note on sandstone for building purposes at, (1863) p. 813.
- St. Simon, Que., coprolitic fossils at, (76-77) p. 435.
- St. Stephen, N.B., stratified diorites and serpentine. (70-71) p. 32.
Laurentian rocks of vicinity, (70-71) p. 48.
diorites with serpentine north of, (70-71) p. 50.
carbonaceous and rusty gneisses of, (70-71) p. 55.
pre-Carboniferous rocks, the dark argillite series, (70-71) p. 196.
pre-Silurian gneiss and mica-schist, (76-77) p. 327.

- St. Stephen, N.B.—*Cont.*
travelled boulder of labradorite at, (77-78) p. 2 EE
nickel and cobalt in pyrrhotite from Thompson's farm, (80-82) p. 16 H.
- St. Stephen Map-sheet of Charlotte Co., N.B., scale 4 miles = 1 in., (78-79) accompanying Part D.
- St. Sulpice Seigniory, Que., peat-deposits in noted, (1863) p. 781.
- St. Thomas de Montmagny, Que., eastern edge of Sillery sandstone at, (1863) p. 258.
mechanical examination and analysis of soil from, (1863) pp. 639-640.
Potsdam exposures south of, (66-69) E. p. 122, F. p. 136.
rocks exposed on road running south-east, (66-69) E. p. 136, F. p. 152.
- St. Timothy, Beauharnois, Que., Calciferous sandrock of, characteristic fossils, (1863) p. 114.
- St. Urbain, Que., note on ilmenite deposit of, (1863) p. 35.
see Bay St. Paul, Que.
- St. Vallier Seigniory, Que., bog-ore deposits in, (1863) p. 684.
Lauzon rocks exposed in vicinity of, (66-69) E. p. 131, F. p. 146.
reference to bog iron-ore, (66-69) E. p. 140, F. p. 156.
- St. Vincent Tp., Ont., outcrop of Clinton Formation in, (1863) p. 315.
distribution of Medina and Clinton Formations in, (1863) p. 317.
Niagara escarpment reaching south side of, (1863) p. 328.
- Saanich, B.C., coal rocks near, (76-77) p. 171.
- Saanich Inlet, B.C., coal areas of, (76-77) pp. 187-188.
- Saanich peninsula, Vancouver I., B.C., crystalline rocks of, speckled diorite, (71-72) p. 90.
- Saanich road, near Victoria, B.C., diorite gneiss exposed on, (71-72) p. 90.
- Saaquash, B.C., coal from, referred to, (76-77) p. 467.
- Sable River, Comox, B.C., survey of part of, (72-73) p. 35.
Lower Shales, thickness of, (72-73) p. 45.
fossils of, (72-73) p. 46.
sections on, referred to, (76-77) p. 163.
boulder-clay of, referred to, (78-79) p. 98 B.
- Sabrevois, Que., mineral-springs of Pike River, (1863) p. 541.
springs of different kinds near each other at, (1863) p. 562.
- Saddle-back settlement, N.B., petrosilex beds with red syenite, (77-78) pp. 13-14 DD.
- Sadoux Ledge, Mosquito Creek, B.C., assay of quartz from, (76-77) p. 478.
- Sage-brush, value for stock feeding, (75-76) p. 127.
- Saginaw brines, composition of, (63-66) p. 267.
- Saguenay Co., Que., report by Jas. Richardson on north shore, St. Lawrence, (66-69) E. pp. 305-311, F. pp. 337-344.
map of part on Ste. Anne de Monts Map-sheet issued 1884.
for general geology see part I, p. 10.
- Saguenay River, Que., note on bog-ore in vicinity of, (1863) p. 684.
superficial deposits of vicinity of, (1863) p. 923.
limestone outlier at Les Battures, (82-84) p. 15 D.
- Saguenay region, Que., report on geological observations of Abbé Laflamme in, (82-84) pp. 5-18 D.
the post-Tertiary deposits of, (82-84) pp. 16-18 D.
- Sailing of vessels from York Factory, Hudson Bay, from 1789 to 1880, (79-80) p. 84-88 C.
- Sal-ammoniac and native sulphur from Smoky River, Atha., analysis of, (75-76) p. 410.
- Salina or Onondaga Formation of N.Y., and Ont., (1863) pp. 345-352.
general description of rocks, with analysis of dolomite, (1863) p. 625.
in New York, note on, (76-77) p. 237.
in Ontario, (76-77) p. 239.
in Michigan, (76-77) p. 239.
- Saline efflorescence from Bow River, Alta., analysis of, (82-84) p. 17 MM.
- Saline lakes, near Temapho Lake, B.C., (75-76) p. 240.
- Saline water from Eastman's Springs, Ont., analysis of, (74-75) pp. 318-319.
- Salisbury Bay, Albert Co., N.B., occurrence of manganese-ore, noted, (77-78) p. 12 D.
deposit of manganese-ore, (78-79) p. 18 D.
note on former working for manganese, (78-79) p. 24 D.
- Salisbury Cove, near Owl's Head, N.B., New Red Sandstone, (70-71) p. 217.
- Salisbury Island, Hudson Strait, appearance of, (79-80) p. 22 C.
- Salmon reported in rivers of Prince of Wales Sound, Hudson Strait, (82-84) p. 26 DD.
- Salmon Arm, Shuswap Lake, B.C., outcrop of rocks of division B., (77-78) p. 96 B.
- Salmon Beach, Bay of Chaleurs, Que., red sandstones at, (1863) p. 452.
- Salmon Branch, Cascapedia River, Que., description of, fall in river, mountain ranges, (82-84) pp. 9-10 E.
unconformity between Silurian and Devonian, character of Silurian rocks on upper part, (82-84) p. 27 E.
large dolerite dyke at main falls on, (82-84) p. 27 E.
metamorphic rocks near South Mountain, (82-84) pp. 27-28 E.
general description of eruptive rocks on, (82-84) p. 33 E.

- Salmon Creek, N.B., coal-seam on North Branch, (72-73) p. 205.
 coal-seam on Little West Branch, section of, (72-73) p. 205.
 list of fossil plants from, (72-73) p. 207.
- Salmon Creek, Richmond Co., N.S., intrusive diorite rocks of, (77-78) p. 19 F.
 note on marble quarry at, (77-78) p. 30 F.
- Salmon Creek road, Richmond Co., N.S., rocks of, (77-78) p. 18 F.
- Salmon Falls, St. Croix River, N.B., Laurentian granite at, (70-71) p. 49.
- Salmon fishery, of Babine Lake, B.C., note on, (79-80) p. 26 B.
 of Haida Indians of Q.C.Is., B.C., note on, (78-79) pp. 44, 110 B.
- Salmon Hole, Right-hand Branch, Tobique River, N.B., rocks of carrying lead and silver-ores, (66-69) E. p. 204, F. p. 226.
- Salmon House, B.C., general description of vicinity of, (76-77) p. 30.
 rocks near, (76-77) p. 65.
- Salmon River, B.C., branch of Fraser River, above Fort George, width of at trail crossing, (76-76) p. 34.
 Cache Creek shales at crossing of, (75-76) p. 79.
 size of, at trail crossing, (79-80) p. 31 B.
- Salmon or Dean River, Dean Channel, B.C., report on, (76-77) pp. 27-62.
 general description of valley, (76-77) pp. 27-31.
 fall on, (76-77) p. 28.
 elevation of upper part of, character of valley, (76-77) p. 36.
 rocks at falls, section of porphyrites, (76-77) p. 62.
- Salmon River, Shuswap Lake, B.C., bars at mouth of, (77-78) p. 25 B.
 descriptive note on valley of, (77-78) p. 61 B.
 description of upper part, arable land, grain, (77-78) pp. 61-62 B.
 agglomerate with limestone at second crossing, (77-78) p. 105 B.
 Tertiary rocks of, (77-78) pp. 128-129 B.
- Salmon River, Cape Breton Co., N.S., Millstone Grit of, (76-77) p. 447.
 coal on, (76-77) p. 453.
 analysis of coal from, by B. J. Harrington, (76-77) p. 454.
 Mira felsites of, (77-78) p. 4 F.
 fossils in sandstone near Mira Lake, (77-78) p. 15 F.
 Carboniferous outliers on, (77-78) p. 24 F.
 note on galena near, (82-84) p. 93 H.
- Salmon River, Inverness Co., N.S., Lower Carboniferous sandstones, etc., on, (82-84) p. 46 H.
- Salmon River, N.B., first and second boring for coal on, (72-73) p. 181.
 exposures of Coal Measures on, (72-73) pp. 204-206.
 sandstones from, used in building, (72-73) p. 229.
- Salmon River, N.B.—*Cont.*
 record of boring in 1837, (72-73) p. 230.
 reference to clay-ironstone of Carboniferous, (73-74) p. 240.
 pre-Silurian rocks of, (77-78) p. 14 DD.
 section of terraces in valley of St. John River, with diagram, (82-84) pp. 33-34 GG.
- Salmon River, Kennebec Tp., Ont., limestone on, extract from report by A. Murray, (72-73) pp. 155-156.
 section of crystalline rocks made by H. G. Vennor, 1874, (74-75) p. 106.
- Salmon River, Bay St. Lawrence, Victoria Co., N.S., felsites in, (82-84) p. 20 H.
- Salmon River, Indian Reserve, Richmond Co., N.S., sulphur in pyritous iron-ore, (82-84) p. 17 MM.
- Salmon River road, Cape Breton Co., N.S., Laurentian rocks of, (76-77) p. 424.
 rocks of, (76-77) p. 447.
 assay of manganese-ores from, (79-80) p. 17 H.
- Salmon spear used by Haida Indians, description of, (78-79) p. 144 B.
- Salmon streams, of southern Cape Breton Island, N.S., note on, (79-80) p. 115 F., and (82-84) p. 83 H.
- Salmon Trout Lake, Ont., height of, (1863) p. 12.
- Salometer, tables giving specific gravity and amount of salt in brine, (63-66) p. 266, and (66-69) E. p. 242, F. p. 268.
- Salt, history and statistics of trade and manufacture in Canada, (74-75) pp. 267-300.
 cost of carriage to Chicago, from Ontario, (74-75) p. 268.
 methods of packing, (74-75) pp. 280-281.
 note on market for, (76-77) pp. 223, 236.
 solubility of, (63-66) p. 265.
 supply of for Ontario during war of 1812, (74-75) p. 287.
 from Atterill's boring, analyses of, (76-77) p. 233.
 amount and nature of impurity in, (76-77) p. 233.
 from Clearwater River, N.W.T., analysis of, (82-84) p. 18 MM.
 discovered at Clinton, Ont., (76-77) p. 221.
 in Dawn Tp., Ont., discovered in oil-boring, (76-77) p. 222.
 probable extent of salt beds at Goderich, Ont., (63-66) p. 271.
 English, cheap carriage of to Canada, (74-75) p. 269.
 imports from England, (74-75) p. 269.
 discovered at Kincardine, Ont., (76-77) p. 221.
 discovered at Kingstone's mills, Ont., (76-77) p. 222.
 discovered at Port Frank, Ont., (76-77) p. 222.
 product of Canadian wells in 1873, (76-77) p. 223.
 reference to salt-bearing rocks of Central Canada, (73-74) p. 21.

Salt—Cont.

- rock salt of Salt River on Slave River and between Great Slave and Great Bear Lakes, (75-76) p. 90.
 at Seaforth, Ont., discovery of referred to, (76-77) p. 222.
 note on sources of in Athabasca District, p. 32 CC.
 specific gravity of Goderich salt, (76-77) p. 235.
 statistics of Ontario for 1869-71, (71-72) p. 147.
 statistics of New Brunswick for 1869-71, (71-72) p. 151.
 statistics of quantity and value of product of Ontario for 1872-73, (74-75) p. 298.
 table showing Canadian salt sold in Canada and United States, (74-75) p. 299.
 total thickness of at Goderich in Atterill's boring, (76-77) p. 232.
 yield of per acre at Goderich, Ont., (76-77) p. 236.
- Salt basin in Ontario, extent of quoted from 1866 report, (66-69) E. p. 215, F. p. 237.
- Salt beds, origin of, (63-66) p. 264.
 in Goderich boring, shown in diagram, (76-77) facing p. 232.
- Salt-boring, Goderich, Ont., examined by T. Sterry Hunt, (76-77) p. 3.
- Salt brine, analysis of from south end Lake Winnipegosis, Man., (74-75) p. 70.
 variation in strength during year, (63-66) p. 270.
 impurities and means of correcting, (63-66) p. 265.
 from Alleghany Co., Penn., composition, (63-66) p. 267.
 from Little Narrows, Bras d'Or, N.S., analysis of, (73-74) p. 181.
 Onondaga brines of Salina and Saginaw, U.S.A., compositions, (63-66) p. 267.
see Brines.
- Salt covers, numbers in use at Syracuse, N.Y., (66-69) E. p. 229, F. p. 253.
- Salt crystals, description and figure of, (63-66) p. 263.
 impressions of in rocks of Onondaga Formation, (1863) p. 345, and (63-66) p. 263.
 mould of, hopper-shaped, in dolomite of Onondaga, wood-cut of, (1863) p. 625.
- Salt formations, of Michigan, England and France, (63-66) p. 263.
- Salt manufacture, freezing methods employed in Russia, (74-75) p. 276.
 at Goderich and Clinton, Ont., note on, (66-69) E. pp. 222-227, F. pp. 245-251.
 in Ontario, capital and labour employed, table, (74-75) p. 296.
 of United States, statistics of, (74-75) pp. 289-290.
- Salt Mountain, Inverness Co., N.S., pre-Cambrian rocks supposed to form nucleus of, (82-84) p. 7 H.
 conglomerates of, (82-84) p. 43 H.
- Salt Point, Dawson Bay, Man., salt-works at, (74-75) p. 69.
- Salt River, branch of Slave River, Atha., occurrence of salt at, (75-76) p. 90.
 salt with gypsum at, (82-84) p. 32 CC.
- Salt springs, origin of in Ontario, (1863) p. 563.
 report by T. Sterry Hunt on, (63-66) pp. 263-280.
 of Admiral Island, B.C., (71-72) p. 89.
 of Black Sturgeon and Nipigon Lakes, Ont., (66-69) E. p. 362, F. p. 401.
 in Cape Breton Co., N.S., (76-77) p. 456.
 on Clearwater River, Atha., (75-76) p. 172.
 at south end Lake Winnipegosis, Man., works at, analysis of brine, (74-75) pp. 69-70.
 at Little Narrows of Bras d'Or, N.S., analysis of brine, (73-74) p. 181.
 in Manitoba, reference to report by H. Y. Hind on, (73-74) p. 22.
 of Manitoulin Island, Ont., (63-66) p. 179.
- Salt Spring Island, Strait of Georgia, B.C., sandstones and argillaceous shales of, (71-72) p. 87.
 crystalline rocks of south end, (71-72) p. 88.
 note on rock specimen from, (71-72) p. 100.
 rocks at, (76-77) p. 182.
- Salt trade in Canada, state of, (74-75) pp. 268-271.
- Salt wells, put down since 1866, in Goderich region, Ont., (66-69) E. p. 212, F. p. 234.
 at Goderich and Kincardine, Ont., record of, (74-75) pp. 285-286.
 record of well bored at Goderich, Ont., (63-66) p. 268.
 at Syracuse salt springs, (66-69) E. p. 219, F. p. 241.
- Salt works at Goderich, Ont., yield of, cost of fuel used at, (66-69) E. p. 223, F. p. 246.
 with wells, in Ontario, table with descriptions of, (74-75) p. 292.
 without wells, in Ontario, table of, (74-75) p. 293.
 table showing capacity and method of manufacture, (74-75) pp. 294-295.
 of Ontario, table showing consumption of wood at, (74-75) p. 300.
 south end Lake Winnipegosis, Man., analysis of brine, (74-75) pp. 62, 69-70.
- SALTER, J. W., notes on fossils from Flathead Valley, B.C., (82-84) p. 41 B.
- Salterella* in Lower Potsdam at St. Roche, Que., (66-69) E. p. 129, F. p. 145.
- Salterella rugosa*, Billings, wood-cut of, from Strait of Belle Isle, (1863) p. 285.
- Saltville, Virginia, salt at, (76-77) p. 237.
- Samarskite from Brassard Tp., Berthier, Que., analysis of, (80-82) p. 1 H.
- Sam's Brook, New Glen, Victoria Co., N.S., pre-Cambrian rocks of, (82-84) p. 12 H.
- San Cristoval Mountains, Queen Charlotte Islands, B.C., note on height and position of, (78-79) p. 24 B.
- San Francisco, U.S.A., coal entering from British Columbia, (76-77) p. 180.

- San Francisco, U.S.A.—*Cont.*
to Portland, journal of A. R. C. Selwyn,
1871, (71-72) p. 19.
- San Jose River, B.C., note on ranches, dryness
of climate, (75-76) p. 125.
- Sand, for building purposes at Campbell Point,
Malagawatch, N.S., (79-80) p. 125 F.
for glass-making, localities in Canada, (1863)
p. 800.
in vicinity of Athabasca River, (82-84)
p. 32 C.C.
for moulding, localities in Canada, (1863)
p. 800.
measures concealed by in Renfrew Co., Ont.,
(76-77) p. 265.
Algoma, distribution of in Ontario, (1863)
pp. 907-908.
drift, on Bonnechère River, Ont., (76-77)
p. 257.
in Horton Tp., Ont., (76-77) p. 261.
in Litchfield Tp., Que., (76-77) pp. 283-
287.
in McNab Tp., Ont., (76-77) p. 256
in Mansfield Tp., Que., (76-77) pp. 282-
283.
remarks on in Ottawa and Pontiac Cos.,
Que., (76-77) p. 283.
in Ross Tp., Ont., (76-77) p. 266.
lacustrine, of Ontario, (1863) pp. 910-915.
Saxicava, of eastern Canada, equivalent to
upper Champlain, distribution of, (1863)
pp. 915-930.
of Quebec, general description and dis-
tribution, (1863) pp. 924-926.
- Sand-banks, on coast of New Brunswick, note on,
(80-82) p. 4 D.
- Sand-beaches, on shores of northern Cape Breton
Island, N.S., localities, (82-84) p. 82 H.
- Sand Brook, Clarendon, N.B., argillites of upper
pre-Carboniferous rocks. pale argillite
series, (70-71) p. 198.
specular iron-ores of, (70-71) p. 223.
- Sand Cove, St. John Harbour, N.B., post-
Pliocene beds, (70-71) p. 173.
- Sand-hill Lake, Qu'Appelle River, Assa., char-
acter of sand-hill region, (73-74) p. 73.
- Sand-hills, of Qu'Appelle River, Assa., near Eye-
brow Hill, origin of, (73-74) p. 73.
- Sand Lake, Albany River, Ont., limestone re-
ported at, (66-69) E. p. 349, F. p. 386.
- Sand-pit bed, Belmont Tp., Ont., analysis of
samples from, (66-69) E. p. 258, F. p. 286.
- Sand plain, on upper St. Maurice River, Que.,
at Kirkendatch, (70-71) p. 300.
- Sand Point, Kennebecasis Bay, N.B., Primordial
rocks of, (70-71) p. 40.
to Boars Head, Lower Carboniferous con-
glomerates and sandstones, (70-71) p. 207.
- Sand Point, St. Croix River, N.B., Mascarene
Series exposed near, (70-71) p. 153.
- Sand Point, Ottawa River, Ont., Silurian rocks
at, (76-77) p. 257.
- Sanders River, Swan River, Man., exposure of
lignite and sandstone at mouth of, (74-75)
p. 34.
lignite débris on, (74-75) p. 59.
assay of lignite from, (74-75) p. 69.
- Sandstone for building purposes, in Ontario and
Quebec, general note on, (1863) pp. 813-815.
in the Silurian beds below Quebec, (66-69)
E. p. 141, F. p. 157.
afforded by the Chazy Formation,
(1863) p. 814.
for furnaces, occurrences of in Canada, note
on, (1863) p. 799.
for flagging, localities of in Ontario and
Quebec, (1863) p. 829.
for glass-making, in Potsdam of Chateau-
guay Co., Que., (1863) p. 89.
note on suitability of Potsdam rock for,
(1863) p. 800.
- Sandstone, argillaceous, at Pointe aux Mines,
Lake Superior, (76-77) p. 215.
in Chazy Formation at Chute à Blondeau
below Grenville, Que., (1863) p. 124.
of Coal Measures of Cape Breton Island,
N.S., casts of plants in, (74-75) pp. 187-
198.
of Copper-bearing Series, unconformity
above, (63-66) p. 135.
concretionary, in valley of Swan River,
Man., (74-75) p. 34.
of Cretaceous of Pine River, Atha., flexures
in beds, section showing, (79-80) facing
p. 114 B.
from Curryville, Albert Co., N.B., specific
gravity and porosity of, (82-84) p. 2 MM.
felspathic, in Nechacco Series, B.C., (76-77)
p. 73.
at Gargantua Cape, Lake Superior, (76-77)
p. 218.
of Highwood River, Alta., character of,
(82-84) p. 106 C.
interrupting coal-seam at Victoria mine,
N.S., (72-73) p. 256.
of Iron Point, Carpenter Bay, B.C., note on,
(78-79) p. 51 B.
of east coast, Lake Superior, note on locali-
ties of occurrence, relation to trap series,
(1863) pp. 83-84, and (76-77) p. 213.
of Lake Superior at Dead River, not cut by
trap dyke, (1863) p. 84.
from near Lombardy, Leeds Co., Ont.,
specific gravity and porosity of, (82-84)
p. 2 MM.
at Mamaine promontory, Lake Superior,
(76-77) p. 213.
of Milk River, N.W.T., (weathered) illu-
stration showing (80-82) frontispiece to Part B.
outcrops in Milk River valley near Verdigris
Coulée, Alta., (82-84) p. 40 C.
of southern New Brunswick for building
stones, (70-71) p. 234.
from Newcastle, N.B., specific gravity and
absorbing power of, (82-84) p. 2 MM.
Ohio, porosity and absorbing power, specific
gravity of, (82-84) p. 3 MM.
of Peace River note on, (75-76) p. 73.
north-west of Pembroke, Ont., (76-77) p. 272.

Sandstone—*Cont.*

- Potsdam, as a building stone, exposures of in Ontario and Quebec, (1863) p. 813.
- weathered, of La Roche Percée, Souris River, Assa., (79-80) p. 17 A.
- Sillery, character of and thickness at Sillery, Que., (1863) pp. 231-232.
- general description of, (1863) p. 598.
- note on character of as building stone, (1863) p. 814.
- Silurian, near Calabogie Lake, Ont., (76-77) p. 250.
- on Skeena River, B.C., near Forks, (79-80) p. 102 B.
- of Upper Copper-bearing rocks of Lake Superior, general note on, (1863) pp. 68, 135.
- of Upper Pine River, Alta., similar to Lower sandstone of Lower Forks of Pine River, (79-80) p. 115 B.
- Sandstone 'dykes' in shales overlying coal measures in Nanaimo coal-field, B.C., (76-77) p. 186.
- in Lower Shales, Trent River, Comox, B.C., (72-73) p. 45.
- Sandstone Island, Skidegate Inlet, Q.C.Is., Number-two coal-mine, (72-73) p. 60.
- Sandstone pillar, on coast near Ste. Anne de Monts, Que., illustration of, (80-82) facing p. 26 DD.
- Sandstone quarry, on Graham River, Inverness Co., N.S., (79-80) p. 104 F.
- Sandstone ridge, St. Marys road, Pictou, N.S., (66-69) E. p. 46, F. p. 52.
- Sand-top Bay, Anticosti, Que., description of second division of Anticosti Group exposed at, fossils found at, (1863) p. 307.
- Sandy Bay, Winnipeg River, to Rat Portage, Ont., portages, rocks, etc., (72-73) p. 103.
- Sandy Beach, Gaspé Bay, Que., petroleum reported at, (1863) p. 189.
- Sandy Beach, Lake St. Maurice, Que., canoe route from Lake Nikoubau to, (70-71) p. 285.
- Sandy Hill portage, Pic River, Ont., character of country, (70-71) p. 329.
- Sandy Islands, N.B., Coastal Series of Huronian of, (70-71) p. 90.
- Sandy portage, Mattagami River, Ont., greenish-grey diorite at, (75-76) p. 311.
- Sandy tract about Oxford and Knee Lakes, Keewatin, (78-79) p. 32 C.
- Sansum Narrows, B.C., copper-ore from, (76-77) p. 147.
- Sansum Island, Thetis Cove, Moresby Island, Q.C.Is., B.C., anchorage behind, (78-79) p. 41 B.
- Sarah Island, coast of British Columbia, limestone beds on, (74-75) p. 76.
- 'Saranac,' U. S. gun-boat, lost in Seymour Narrows, view of at Nanaimo, B.C., (76-77) facing p. 170.
- Sarnia Tp., Ont., note on superficial deposits of, (1863) p. 901.
- Saskatchewan coal-seam, specimens obtained for Philadelphia Exhibition, (75-76) p. 288.
- Saskatchewan gravel, or quartzite-shingle of southern Alberta, (82-84) pp. 140-143 C.
- Saskatchewan plains, N.W.T., extent of limestone drift to the west on, (73-74) p. 57.
- Saskatchewan River, N.W.T., average of analyses of coal from, (73-74) p. 7.
- geological features. Rocky Mt. House to Lake Winnipeg, (73-74) pp. 45-58.
- soil, timber, weather, etc., (73-74) pp. 58-62.
- Rocky Mt. House to Victoria, general sketch of exposures, (73-74) p. 49.
- character of valley below Victoria, Alta., (73-74) p. 50.
- from the Elbow to Fort à la Corne, Sask., (73-74) p. 51.
- above mouth of Brazeau River, absence of boulders, (73-74) p. 57.
- character of timber in valley west of Fort Pitt, and below Carlton, (73-74) p. 59.
- Big coal-seam, analyses of specimens from, (73-74) p. 63.
- origin of gold in, traces of at Elbow of South Branch, (73-74) p. 86.
- sketch-map of A. R. C. Selwyn's survey, (73-74)
- note on publication of, (74-75) p. 7.
- catalogue of plants from Rocky Mountains to Lake of the Woods, (75-76) pp. 186-232.
- from near Cedar Lake to Cumberland House, description of country, (79-80) p. 10 C.
- high and low water in, (79-80) p. 10 C.
- near Big-stone River, analysis of water from, (80-82) pp. 6-7 H.
- Sassafras officinale*, Nees, range of in Canada, (79-80) p. 55 C.
- Sassafras Selwyni*, Dawson, description of from Roche Percée, Souris River, Assa., (79-80) p. 53 A.
- Saturna Island, Haro Str., B.C., rocks of, (76-77) p. 185.
- Saugeen clay, description of with details of distribution, (1863) pp. 897-907.
- Saugeen River, Ont., exposures of Guelph Formation on Rocky Saugeen branch, (1863) p. 342.
- exposures of Onondaga Formation, dolomites, lithographic stone, etc., on, (1863) p. 351.
- lithographic stone obtained from, (1863) p. 835.
- description of the clay deposits on, (1863) p. 899.
- fluvatile deposits containing land and fresh-water shells, (1863) p. 913.
- Sault à la Puce, Que., anticlinal axis in Laurentian at, (1863) p. 96.
- Trenton limestones on, dislocation in, (1863) pp. 159-160.
- Sault Ste. Marie, Ont., terrace behind, character of, (1863) p. 906

- Sault Ste. Marie, Ont.—*Cont.*
 note on age of sandstone of, (1863) p. 19 Atlas.
 explorations in 1876 near, (76-77) p. 194.
 list of coleoptera collected in 1881 by R. Bell, at, (80-82) pp. 29-31 C.
 note on fossils of sandstone, evidence of Potsdam age not conclusive, (1863) p. 86.
 discussion on relation of sandstones to Upper Copper-bearing Series, probable unconformity, (1863) p. 86.
 sandstones of, unconformably above Upper Copper-bearing Series, (63-66) p. 137.
 distribution of sandstones, (66-69) E. p. 473, F. p. 527.
- Saunders Cove, Bouldardrie Island, N.S., section of Carboniferous limestone, (75-76) p. 407.
- Saurian foot-prints, from Cumberland Co., N.S., secured by S. Barlow, 1871, (71-72) p. 14.
- Sauropus ungifer*, Dawson, from Cumberland Co., N.S., reference to description of, (71-72) p. 15.
- Saussurite, general characters of, (1863) p. 650.
- Savach Brook, Middle River, N.S., granite, etc., at, (82-84) p. 31 H.
 limestone, garnetiferous and labradorite rocks of, (82-84) pp. 34-35 H.
- Savary Island, Strait of Georgia, B.C., stratified deposits of, (78-79) p. 98 B.
- Savona's Ferry, Thompson River, B.C., road to from Cache Creek, (71-72) p. 24.
 lakes of plateau country south of, (77-78) p. 16 B.
 older rocks of, volcanics, (77-78) p. 83 B.
 character of valley of river below, (77-78) p. 14 B.
- Saw-mills in southern Cape Breton Island, N.S., (79-80) p. 114 F.
- Sa-wa-min-i-kong Lake, Montreal River, Ont., rocks of, (75-76) p. 303.
- Saxe's mill, on branch of Rock River, Vermont, section of Potsdam or Red Sand-rock of Vermont at, (1863) p. 282.
- Saxicava rugosa*, Linn., wood-cut of left valve, (1863) p. 964.
- Saxicava sand, equivalent of Upper Champlain sand, distribution of, (1863) pp. 915-930.
 of eastern Canada, general description and distribution of, (1863) pp. 924-926.
 in southern New Brunswick, terraces, thickness of, (77-78) pp. 31-32 EE.
- Saxifraga ranunculifolia*, Hook, rediscovery of by J. Macoun, (75-76) p. 118.
- Sayabec Station, Que., Silurian rocks near, referred to, (82-84) p. 29 E.
- Sayyee Creek, B.C., gold-workings on, (76-77) p. 140.
- Scabby Butte, Alta., collection of reptilian remains from, (80-82) p. 13.
 section of transition beds. vertebrate remains, (82-84) p. 79 C.
- Scalaria Grœnlandica*, Perry, wood-cut of, (1863) p. 964.
- Scandinavia, gold in Laurentian of, (63-66) p. 196.
 note by Mr. Durocher on rocks of containing magnetic iron-ore, (73-74) p. 196.
- Scapolite, description and analysis of, occurrences, (1863) pp. 473-474.
 from Ripon Tp., Que., analysis of, (77-78) p. 32 G.
 occurrence of, in Laurentian rocks, (63-66) p. 209.
 at Grant pit, Emerald mine, Que., (82-84) p. 12 J.
 at High Rock mine, Que., (82-84) p. 10 J.
 in débris at Murphy's mine, Templeton, Que., (80-82) p. 11 GG.
 in Wakefield Tp., Que., (80-82) p. 13 GG.
- Scapolite group of minerals, in apatite-bearing rocks, Ottawa Co., Que., localities, form of crystals and analysis of, (77-78) pp. 31-33 G.
- Scarborough Tp., Ont., waters of mineral springs, character of, (1863) p. 542.
 clay and sand deposits of, (1863) p. 904.
- Scarlet-fruited thorn, note on range of in Canada, (79-80) p. 54 C.
- Scatari Island, N.S., felsites and felsite-breccia of, (77-78) pp. 6-7 F.
 outlier of Carboniferous conglomerate on, (77-78) p. 23 F.
 superficial geology and physical description of soil, etc., (77-78) p. 26 F.
 note on ornamental stone, felsite-breccias of, (77-78) p. 30 F.
- Scaumenac Bay, Bay of Chaleurs, exposures of Lower Carboniferous rocks at, (79-80) p. 10 D.
 Devonian rocks of, fossils discovered, (79-80) p. 13 D.
 notes on Lower Carboniferous of, (80-82) p. 7 D.
 fossils, list of from Devonian rocks, their horizon, (80-82) p. 10 D.
 fish-bearing beds not disturbed by traps, (80-82) p. 18 D.
- Scaumenac River, Bay of Chaleurs, trap rocks on, (1863) p. 449.
 Silurian rocks on, reference to Logan's description of, (79-80) pp. 21-22 D.
 list of Silurian fossils from forks of, (82-84) p. 26 E.
- Schibwah River, Ont., clay deposits of, (1863) p. 905.
- Schistose gneiss, French River, Ont., (76-77) p. 202
- Schistose rocks of Metlakatla and Port Simpson, B.C., (79-80) p. 100 B.
- Schists, of Douglas Channel, B.C., (74-75) p. 78.
 of Island Lake, Keewatin, (78-79) p. 37 C.
 of Split Lake and vicinity, Nelson River, (78-79) p. 13 C.
 at Victoria mine, Georgian Bay, near Garden River, Ont., (76-77) pp. 212-213.
 cherty, at Cape Choyé, Lake Superior, (76-77) p. 219.

Schists—*Cont.*

- conglomerate, of islands off Paint Hills, Hudson Bay, (77-78) p. 10 C.
- of characteristic Huronian rocks of Island Lake, Keewatin, (78-79) p. 37 C.
- crystalline, from Eastern Townships, Que., microscopic structure of, (80-82) pp. 14-19 A.
- of Pointe aux Mines, Lake Superior, (76-77) p. 214.
- diorite of Cape Choyé, Lake Superior, (76-77) p. 218.
- graphitic, of Buckingham, Que., (76-77) p. 310.
- hornblende, of Byng Inlet, Georgian Bay, Ont., (76-77) p. 202.
- of Cape Choyé, Lake Superior, (76-77) pp. 218-219.
- of French River, Ont., (76-77) p. 195.
- of mouth of Garden River, Ont., (76-77) p. 211.
- of north coast Georgian Bay, Ont., (76-77) p. 208.
- of Meganatawan River, Ont., (76-77) p. 202.
- of mouth of Michipicoten River, Ont., (76-77) p. 220.
- of Moose Deer Point, Lake Huron, Ont., (76-77) p. 198.
- of Parry Island, Georgian Bay, Ont., (76-77) pp. 198-199.
- of Parry Sound, Georgian Bay, Ont., (76-77) p. 196.
- of Rosetta Island, Georgian Bay, Ont., (76-77) p. 199.
- of Rutherford Tp., Ont., (76-77) p. 209.
- of Shibaishkong Island, Georgian Bay, Ont., (76-77) p. 200.
- micaceous, at Cape Choyé, Lake Superior, (76-77) p. 219.
- at mouth of French River, Ont., (76-77) pp. 195, 202.
- of Lamirondieres Bay, Georgian Bay, (76-77) p. 209.
- of Little Lake George, Ont., (76-77) p. 211.
- of mouth of Michipicoten River, Lake Superior, Ont., (76-77) p. 220.
- of Montreal River, Lake Superior, Ont., (76-77) p. 217.
- of Moose Deer Point, Ont., (76-77) p. 198.
- of Parry Sound, Georgian Bay, Ont., (76-77) pp. 195-199.
- of Pointe aux Mines, Lake Superior, (76-77) p. 216.
- of Shibaishkong Island, Georgian Bay, Ont., (76-77) p. 200.
- silicious, of Montreal River and vicinity, Lake Superior, (76-77) p. 217.
- Schoharie grit, character of, in Albany Co., N.Y., (1863) p. 359.
- Schoodie Lake, York Co., N.B., area of Cambro-Silurian in granite area, (82-84) p. 20 G.
- School of Mines, suggestion for in connection with Survey, (69-70) p. 12 Summ.

- School of Technology Boston, result of analysis of coal at, from North River mine, N.S., (76-77) p. 452.
- School collections, supplied by Geological Survey, (74-75) p. 16.
- Schooner Bay, Vancouver Island, B.C., fossils in crystalline rocks, limestones with tremolite, (73-74) p. 97.
- Schooner Island, Pistolet Bay, Nfld., rocks of, fossils found, (1863) p. 873.
- Schooner Lake, Miller Tp., Ont., gneiss of, thickness, (72-73) p. 146.
- Schooner Passage, Q.C.Is., B.C., note on iron-ores from, (72-73) p. 82.
- Schooner Pond, N.S., section of Ross coal-seam east side of, (74-75) p. 217.
- bog iron-ore note on occurrence of at, (74-75) p. 262.
- Schooner Pond mines, N.S., quantity of coal produced, (72-73) p. 275.
- quality of coal, works and buildings, (72-73) p. 276.
- statistics, men employed, expenditure, (72-73) p. 290.
- Schultz's locations, North Burgess Tp., Ont., apatite deposits of, pink calcite, (71-72) pp. 124-125.
- South Crosby Tp., Ont., openings made in, (71-72) p. 128.
- Schwartzberg, Germany, compared with Marmora, Ont., (71-72) p. 132.
- Schweltza Lake, B.C., metamorphic rocks of, (82-84) p. 11 B.
- Sciara deperdita*, Scudder, from Quesnel, B.C., notes on, (76-77) p. 457.
- Scientific Magazines and Journals subscribed for by Survey, (80-82) p. 45, and, (82-84) pp. 45-46.
- Sciomyza revelata*, Scudder, description of, from Tertiary beds of Quesnel, B.C., (75-76) p. 275.
- additional descriptive notes on, (76-77) p. 458.
- Scissors Creek, Qu'Appelle River, Assa., grey shale at mouth of, (73-74) p. 71.
- percentage of iron in clay-ironstone, (73-74) p. 242.
- Scolithus Canadensis*, Billings, wood-cut of, and notes on origin and general occurrence in Potsdam Formation, (1863) p. 101.
- Scoutomatto River, Anglesea Tp., Ont., dome-shaped diorite hills, (72-73) p. 152.
- Scotch Creek, Shuswap Lakes, B.C., gold on, (76-77) p. 142., and (77-78) p. 160 B.
- Scotch Lake, Queensbury Parish, N.B., relation of Cambro-Silurian and granite areas, (82-84) p. 22 G.
- Scotch Settlement, Springfield, N.B., crystalline rocks of, antimony in, (70-71) p. 54.
- rocks exposed at, (70-71) p. 78.
- magnetite at, (70-71) p. 222.

- Scotch settlement, Wickham, N.B., exposures of Lower Carboniferous in, (72-73) p. 194. schists of east and west parts of, (75-76) p. 361.
- Scotch settlement, York Co., N.B., alteration of quartzites near granite, (66-69) E. p. 189, F. p. 209.
- Scotia mine, Springhill, N.S., analysis of aluminogen from, (78-79) p. 8 H.
- Scots Bay, N.S., minerals of amygdaloids of, (82-84) p. 27 L.
- Scott Brook, Richmond Co., N.S., the Carboniferous rocks of, fossils found in, (79-80) p. 63 F.
sections in tributaries of, (79-80) p. 64 F.
fossils of indicate Upper Coal-formation, (79-80) p. 111 F.
iron-stone of, (79-80) p. 122 F.
- Scotty Island, Lake of the Woods, Ont., note on veins of mispickel and pyrrhotite on small island near, (82-84) pp. 17-18 K.
assay of ore from, (82-84) p. 12 MM.
- Scott's mine, Hull Tp., Que., apatite deposits, bed of jasper, (82-84) p. 16 L.
- Scovil Brook, Kings Co., N.B., Huronian rocks exposed on, (70-71) p. 79.
- SCUDDER, S. H., reference to paper on fossil insects from Millstone Grit of Cape Breton Co., N.S., (74-75) p. 192.
on insects of Tertiary beds at Quesnel, B.C., (75-76) pp. 266-280.
on fossil insects from Quesnel, B.C., (76-77) pp. 457-464.
the fossil insects, collected in 1877 by G. M. Dawson in interior of British Columbia, Appendix A., (72-73) pp. 175-185 B.
- Scudder Point, Burnaby Island, Q.C.Is., description of shore near, (78-79) p. 20 B.
diorite rocks of, (78-79) p. 57 B.
- Scugog Lake, Ont., height of, (1863) p. 12.
- Scugog River, Ont., the Trenton Formation on, fossils found at Sturgeon Lake and Lindsay, (1863) p. 191.
- Scypher Cove, Grand Lake, N.B., section of coal-formation at, (72-73) p. 209.
- Scyra acutifrons*, Dana, note on specimens from near Victoria B.C., (78-79) p. 210 B.
- Scythe-stones, rock suitable for at Sharp-rock portage, Missinaibi River, Ont., (75-76) p. 333.
- Sea beaches, remains of on Rigaud Mt., Que., (1863) p. 896.
- Seacoal Bay, Richmond Co., N.S., section of Carboniferous rocks in, (79-80) p. 73 F.
coal-seams, character of coal, analysis of, (79-80) p. 121 F.
- Seacoal Brook, Richmond Co., N.S., section of Carboniferous in, (79-80) pp. 72-73 F.
- Seaforth, Ont., steam used in evaporating brine at, (74-75) p. 276-277.
salt found at, (76-77) p. 222.
- Seal Cove, Gaspé, Que., sinuosity of beds of Gaspé sandstones, (1863) p. 396.
petroleum-spring reported at, (1863) p. 789.
- Seal Cove, Grand Manan Island, N.B., Triassic traps of, (70-71) p. 221.
- Seal Cove, Cape Breton Island, N.S., felsites of, (77-78) p. 8 F.
- Seal River, Hudson Bay, northern limit of white spruce, (78-79) p. 41 C.
- Seals, varieties seen in Hudson Bay, (77-78) p. 29 C.
- Seams of coal *see* Coal.
- Sea-otter, account of first traders visiting Q.C.Is., trading for, (78-79) pp. 154-161 B.
obtained by Dixon, number of, (78-79) p. 172 B.
- Sea-pen, *Verillea Blakei*, collected by Jas Richardson, (74-75) p. 13.
- Sea-river Fall, Nelson River, situation of, (77-78) p. 4 CC.
- Sea-salt, reference to paper by T.S. Hunt on manufacture of, (66-69) E. p. 230, F. p. 255.
- Sea shore, of northern part of Cape Breton Island, N.S., note on character of, (82-84) p. 82 H.
- Season of navigation of Hudson Strait and Bay, (79-80) p. 36 C.
- Sea-urchins used as food by Haida Indians, B.C., (78-79) p. 112 B.
- Sea-water, composition of, (63-66) p. 266.
- Sea-wolf Island, Inverness Co., N.S., Coal Measures exposed on, (82-84) p. 76 H.
- Sebastopol Tp., Ont., deposits of marl noted at Clear Lake, (1863) p. 765.
note on apatite mines of, (82-84) pp. 6-7 L.
- Second Gold Brook, Middle River, N.S., section of schists, etc., on, (82-84) pp. 28-29 H.
- Second prairie steppe, summary description by A. R. C. Selwyn, Dr. Hector's description quoted, (73-74) p. 23.
- Sections, diagrammatic :—
geologically coloured, illustrating the geology of Canada, (1863) Atlas.
index to the colours and signs used on, (80-82) facing p. 47.
in Nova Scotia, of Acadia iron-ore deposits, (72-73) facing p. 19.
of Coal Measures at Springhill, (73-74) p. 154.
of the Coal Measures of the Sydney coal-fields, (74-75) facing p. 266.
from Gabarus Bay to St. Andrew Channel, on map accompanying, (77-78) Part F.
from Sydney River to St. Anne Harbour, (75-76) p. 371.
in New Brunswick, of terrace at Keswick, (82-84) pp. 39-40 GG.
from Quaco to Belleisle Bay, coloured, (78-79) accompanying Part D.
in Albert and Westmoreland Cos., of Lower Carboniferous, (76-77) facing p. 356.

Sections, diagrammatic—*Cont.*

- at Enniskillen Station, of Leda clay, (77-78) pp. 26-27 EE.
 from Lepreau to Little New River, geologically coloured, (78-79) accompanying Part D.
 from Oak Bay to St. Croix River and Deadman Head, geologically coloured, (78-79) accompanying Part D.
 from mouth of Upper Salmon River, Albert Co., to the Intercolonial Railway, geologically coloured, (78-79) accompanying Part D.
 from Wolf Brook to Queens Co. line, coloured, on map, (78-79) accompanying Part D.
 in Quebec, showing irregular deposits of apatite, (77-78) p. 10 G.
 from Buckingham to East Pierrepont, N.Y., coloured, (1863) Atlas.
 from Burg Louis to St. Etienne, coloured, (1863) Atlas.
 from Chatham Tp. to Chateauguay, N.Y., coloured, (1863) Atlas.
 at Harvey Hill mine, (1863) p. 727.
 of limestone-conglomerates at Point Lévis, (1863) Atlas.
 from St. Jerome to Shefford Mountain, coloured, (1863) Atlas.
 from Mingan Islands by Anticosti to Cape d'Espoir, coloured, (1863) Atlas.
 of Phillipsburgh and Potsdam Group on Province line, (1863) p. 847, and (1863) Atlas.
 showing contact of Phillipsburgh and Potsdam Group in St. Armand, (1863) p. 852, and (1863) Atlas.
 from Petite Nation and St. Jerome to St. Armand Tp., coloured, (1863) Atlas.
 showing relations between Potsdam and Quebec Group near Phillipsburgh and Highgate Springs, Vermont, (1863) Atlas.
 of relation between Quebec Group and Trenton Group, (1863) p. 296.
 showing relations of Quebec Group and Trenton Group at Highgate Springs, Vt., (1863) p. 855.
 from Ste. Anne de Monts to Cascapedia River, coloured, (1863) Atlas.
 from mouth of Ste. Anne de Monts River to mouth of Cascapedia River, on Cape Marsouin Map-sheet, issued 1884.
 from Shawenegan to Tingwick, coloured, (1863) Atlas.
 in Ontario, of rocks at Campement d'Ours and to St. Joseph Island, Lake Huron, (1863) p. 196.
 from Eardley to Oswego, N.Y., coloured, (1863) Atlas.
 from Echo River, Lake George, to Saginaw Bay, Mich., coloured, (1863) Atlas.
 at Goderich, boring by Attrill, diagram of strata, (76-77) facing p. 232.

Sections, diagrammatic—*Cont.*

- of Laurentian of Lanark Co., (74-75) on map facing p. 105.
 from Little White River to Blind River, Lake Huron, coloured, (1863) Atlas.
 across North Burgess Tp., (74-75) p. 111.
 from Somerville Tp., Ont., to Nittany Valley, Penn., U.S.A., coloured, (1863) Atlas.
 across valley of Sydenham River, at Owen Sound, showing relation of surface deposits, (1863) p. 898.
 of rocks at south end Long Island, Hudson Bay, (77-78) p. 12 C.
 of rocks at Richmond Gulf, Hudson Bay, (77-78) p. 14 C.
 in North-west Territories, of Lignite Tertiary on Souris River, (79-80) p. 16 A.
 of Lignite Tertiary of Souris River, Short Creek and Porcupine Creek, (79-80) p. 28 A.
 junction of Cretaceous and Tertiary, south of Wood Mt., Assa., (79-80) facing p. 32 A.
 showing comparison between coal-seams on Belly River, (82-84) facing p. 72 C.
 from Coal Creek, Bow River, to Medicine Hat, on map of Bow and Belly region, (82-84) accompanying Part C.
 at Medicine Hat, showing position of coal-seams, (82-84) facing p. 78 C.
 illustrating the Cretaceous and Laramie rocks of disturbed belt and Porcupine Hill syncline, (82-84) facing p. 106 C.
 of drift deposits at Driftwood Bend, Belly River, (82-84) p. 144 C.
 on Middle Fork of Old Man River, east of crossing of Crow's Nest trail, (82-84) p. 100 C.
 in British Columbia at the following localities:—
 Alliford Bay, Q.C.Is., of passage beds, (78-79) p. 68 B.
 Bonaparte River, sketch showing mode of occurrence of serpentine, (77-78) p. 94 B.
 Burnaby Island, Q.C.Is., of Triassic rocks in Section Cove, (78-79) p. 56 B.
 Boston Bar to Spioos Creek, (77-78) facing p. 174 B.
 Cape Ball, Q.C.Is., of clays and sands north of, (78-79) p. 92 B.
 Cache Creek Series, mode of occurrence of serpentine in, (77-78) facing p. 174 B.
 Cherry Creek, showing possible position of pre-glacial channel in, (77-78) facing p. 159 B.
 Coal Gully, Nicola River, of Tertiary coal-bearing rocks, (77-78) facing p. 174 B.
 Comox coal-fields, coal measures of, on maps accompanying, (72-73) and (76-77).
 Coquihalla bridge to Unknown Creek, (77-78) facing p. 174 B.

Sections, diagramatic—*Cont.*

- Cumshewa Inlet, Q.C.Is., of rocks in the Peninsula, (78-79) p. 79 B.
 Hope to South Kootenay Pass, (82-84) facing p. 42 B.
 Hope-Similkameen trail, across summit, (77-78) facing p. 174 B.
 International boundary west of Osoyoos Lake, geologically coloured, (82-84) facing p. 42 B.
 Kamloops Lake, of Tertiary rocks, (77-78) facing p. 174 B.
 at Red Point, of flexure and fault, (77-78) facing p. 116 B.
 Lillooet ferry to Hat Creek, (77-78) facing p. 174 B.
 Marble Cañon, east entrance, dislocated and compressed anticline, (77-78) facing p. 90 B.
 Mission Creek, showing occurrence of gold-bearing gravels on, (77-78) facing p. 157 B.
 Nanaimo coal-basin, of coal measures, on map accompanying, (76-77)
 Nicola Lake, rocks on south side, (77-78) facing p. 174 B.
 Nicola River, coal-bearing rocks of Coal Gully, (77-78) facing p. 174 B.
 Osoyoos Lake, of Tertiary basin north of, (77-78) facing p. 174 B.
 Peace River, near Ottertail River, folded strata on north side, (75-76) p. 77.
 Pine River, of flexures in Cretaceous sandstones, (79-80) facing p. 114 B.
 Quesnel, across Fraser River, (75-76) p. 257.
 of insect and plant-bearing beds, (75-76) facing p. 258.
 Section Cove, Burnaby Island, Q.C.Is., (78-79) p. 56 B.
 Skidegate Inlet, of coal-bearing rocks in, (78-79) facing p. 63 B.
 Skeena River to Forks of Smoky and Peace rivers, on Map-sheets I, II and III, (79-80) accompanying Part B.
 Striped Mountain, Similkameen River, (77-78) p. 84 B.
 Shuswap Lakes, arrangement of rocks, (77-78) facing p. 174 B.
 showing relations of Trenton and Potsdam Groups at Smith's lime-works, Highgate Springs, Vt., (1863) p. 855, and (1863) Atlas.
 from east to West at Swanton, Vt., (1863) p. 857, and (1863) Atlas.

Sections in Nova Scotia at the following localities:—

- Bear Island, Strait of Canso, of Carboniferous rocks, (79-80) pp. 90-91 F.
 Black River, West Bay, of Carboniferous rocks on mill-stream near mouth of, (79-80) p. 68 F.
 Bridgeport Basin, of Carroll coal-seam, (74-75) p. 193.

Sections in Nova Scotia—*Cont.*

- Boulardrie district, of Crawley coal-seam, (74-75) p. 243.
 Burnt Point to Boulaceet Harbour, (76-77) p. 406.
 Campbell Brook, North Mountain, of crystalline limestone series (pre-Cambrian) of, (79-80) p. 20 F.
 Cape Dauphin area from Bras d'Or to St. Anne Mt., of Coal Measures of, (74-75) pp. 255-257.
 Cape Dauphin to St. Anne Mt., of Carboniferous rocks, (74-75) pp. 260-262.
 Cape Rhumore, of Laurentian at, (76-77) p. 419.
 Carleton Head, Richmond Co., of Carboniferous rocks, (79-80) pp. 74-75 F.
 Chimney Corner Point and mines, Inverness Co., of Coal Measures, (82-84) p. 75 H.
 Christmas road, of pre-Carboniferous, (76-77) p. 408.
 Coal Mine Point, Finlay Point and Mill Brook, Mabou, of Coal Measures, (82-84) pp. 61-71 H.
 Cow Bay, along shores of, (74-75) pp. 206-210.
 Cranberry Head to Stupart Point, of Coal Measures, (74-75) pp. 231-234.
 Crane Brook, of Laurentian, (75-76) pp. 386-387.
 Crawley Brook, Sydney Harbour, of Carboniferous limestone, (75-76) pp. 402-403.
 Glace Bay coal-basin, of strata, (74-75) pp. 213-223.
 Table Head to Bridgeport, (74-75) pp. 218-220.
 Table Head to North Head, (74-75) pp. 213-215.
 Glendale to Big Brook, Inverness, of Carboniferous, (79-80) pp. 97-99 F.
 Grant Point, Strait of Canso, of Carboniferous, (79-80) pp. 77-78 F.
 Goulet Pond to Descousse, Madame Island, of Devonian rocks, (79-80) p. 35 F.
 Grantmire Brook, Sydney, of Carboniferous limestone in, (75-76) pp. 404-405.
 Gregwa and Dugald Brooks, (76-77) pp. 412-414.
 Hawkesbury, Inverness Co., of strata near Emery's wharf, (79-80) pp. 76-77 F.
 Hawkesbury Harbour, of Carboniferous, (79-80) pp. 84-85 F.
 Indian Cove and Lloyds Cove coal-seams, (72-73) p. 242
 Inverness Co., coast of, from Little Judique to Port Hood, of Coal Measures, (82-84) pp. 53-56 H.
 from Port Hood to Mabou River, of Coal Measures, (82-84) pp. 57-60 H.
 Irish Cove to Loch Lommond, felspathic rocks, (76-77) p. 420.
 Janvrin Island, north side, of Carboniferous strata, (79-80) pp. 57-59 F.
 Judique Harbour, Inverness Co., on shore north of, of Carboniferous strata, (78-80) pp. 106-108 F.

Sections in Nova Scotia—*Cont.*

- Kelly Cove to St. Annes Mt., (74-75) pp. 252-253.
- L'Ardoise road, of porphyry and syenite, (76-77) p. 417.
- Little Judique Harbour, Inverness, on shore south from, of Carboniferous, (79-80) pp. 108-110 F.
- Little Glace Bay district, of Coal Measures published by J. P. Leslie, (73-74) p. 177.
- Little River, Richmond Co., of Coal Measures, (79-80) p. 119 F.
- Lorway to Sydney Harbour, of Millstone Grit, (74-75) p. 190.
- Lorway west pit, Glace Bay, (74-75) p. 222.
- Macdonald Brook, of crystalline limestone, (75-76) pp. 384-385.
- McCodrum Brook, of Lower Silurian, (76-77) p. 437.
- McKinnon Harbour showing contact of gypsum beds with limestones, near, (76-77) p. 443.
- McLean Brook, of Lower Silurian, (76-77) p. 431.
- McPherson Brook, Glendale, of crystalline limestone series, (79-80) pp. 25-26 F.
- McRae's mill, River Inhabitants, of Carboniferous rocks, (79-80) p. 92 F.
- Middle River, of schists on First and Second Gold Brooks, (82-84) pp. 28-29 H.
- Middle River, of crystalline limestone, (82-84) pp. 35-36 H.
- Mira Bay, of Millstone Grit, (74-75) pp. 176-179.
- Morrison Harbour, West Bay, of felsites in brooks near, (79-80) pp. 6-8 F.
- Murphy North Brook, George River, of crystalline limestone, (75-76) p. 382.
- North-east Margaree River of pre-Cambrian rocks at Tim Campbell's Brook, (82-84) p. 27 H.
- North Head, Cow Bay, of Millstone Grit, (74-75) pp. 181-183.
- New Campbellton mines to St. Anne Mt., (74-75) pp. 253-255.
- Owl Brook, Boisdale, of Lower Silurian, (75-76) p. 393.
- Peebles Point, Strait of Canso, southward, of Carboniferous rocks, (79-80) p. 89 F.
- Plant Point to Little Bras d'Or bridge, (74-75) pp. 237-238.
- Point Aconi to Millstone Grit rocks, (74-75) pp. 245-247.
- Queensville Brook, Inverness, of crystalline limestone, George River limestone, (79-80) p. 24 F.
- River Denys, Inverness, of pre-Cambrian, (79-80) pp. 31-32 F.
- River Denys cross-roads, gneissic strata near, (79-80) p. 30 F.
- Rocky Bay, Madame Island, south of Shaw Point, of Devonian rocks, (79-80) pp. 38-40 F.
- St. Andrew Channel, of rocks on east side, (75-76) pp. 388-390.
- Saunders Cove, Boulardrie Island, of Carboniferous limestone, (75-76) p. 407.

Sections in Nova Scotia—*Cont.*

- Scott Brook and tributaries, of Carboniferous rocks of, (79-80) p. 64 F.
- Sea Coal Brook and Bay, Richmond Co., of Carboniferous rocks, (79-80) pp. 72-73 F.
- Skye Glen, of Carboniferous limestone, (82-84) p. 49 H.
- Springhill coal-field, of coal-seam proved in trial pits, (73-74) pp. 150-152.
- in bore-hole near Hibbard pit, (73-74) pp. 155-156.
- Springhill Mining Co's., west slope, north of (73-74) p. 157.
- at General Mining Co's. Old pit, (73-74) p. 158.
- Hill's pit, south side of, (73-74) p. 159.
- Springhill Mining Co's., east slope, (73-74) pp. 158-159.
- in pits on 2' 6" seam, (75-76) pp. 344-345.
- Steele Brook, of Lower Silurian, (76-77) pp. 429-431.
- Stirling pit, Little Glace Bay mines, (74-75) pp. 215-217.
- Strait of Canso from Emery Pond to Plaster Cove, of Carboniferous, (79-80) 79-83 F.
- Stupart Point southward, Sydney Harbour, of Millstone Grit, (74-75) pp. 187-188.
- Sydney Harbour, of Carboniferous limestone, (74-75) pp. 169-171.
- west part of, (74-75) pp. 231-238.
- Low Point to Langan, (74-75) pp. 223-226.
- Low Point to McPhee's Ferry, (74-75) pp. 227-229.
- Sydney Mines, of Coal Measures, reference to published work of R. Brown, (73-74) p. 177.
- Sydney River, of Carboniferous limestone, (75-76) pp. 399-402.
- Tom's Brook, Richmond Co., folded limestone, (77-78) p. 21 F.
- Tupper Point, Strait of Canso, of Carboniferous rocks, (79-80) pp. 86-88 F.
- Victoria mines to South Bar, Sydney, of Millstone Grit, (74-75) pp. 185-186.
- Watson Brook, Sydney Harbour, of Carboniferous conglomerates, composition of pebbles, (75-76) p. 395.
- Sections in New Brunswick, at the following localities:—
- Aroostook River, near St. John River, of terraces, (82-84) p. 41 GG.
- Butler Cove, Grand Lake, of Coal Measures, (72-73) p. 209.
- Carleton, of inverted strata of pre-Silurian, (77-78) p. 24 DD.
- Carmichael Brook, Queens Co., of pre-Carboniferous schists, (75-76) p. 362.
- Charlotte Co., N.B., across, explanation of, (76-77) p. 349.
- Coal Creek, of bluff, (72-73) p. 208.
- Duck Cove, near Carleton, of Leda clay, (77-78) p. 24 EE.
- Fairville, of Leda clay and Saxicava sand, (77-78) p. 23 EE.
- Fredricton, of terraces, (82-84) pp. 38-39 GG.

Sections in New Brunswick—*Cont.*

- Golding's Corners, Wickham, south of, of Silurian, (75-76) pp. 359-361.
 Golden Grove, Rothesay Tp., (77-78) p. 5 DD.
 Grand Falls, St. John River, of drift, (82-84) p. 13 GG.
 Hanford Brook, St. Martin Tp., of micaceous and schistose group, (77-78) pp. 18-19 DD.
 of Primordial rocks, (77-78) p. 31 DD.
 Hazen's mill, Waterford, south of, of pre-Silurian, (77-78) pp. 14-15 DD.
 Jones Creek to St. John River, near Caton Island, showing thickness of pre-Silurian, (77-78) pp. 26-27 DD.
 Lawlor Lake, of Leda clay and sand, (77-78) p. 29 EE.
 Little West Branch, Salmon Creek, of coal-seam, (72-73) p. 205.
 Lunn Brook, Johnston Tp., Queens Co., of beds exposed on, (75-76) p. 364.
 Manowagonish Beach, of Leda clay at, (77-78) p. 24 EE.
 Nackawicac River, of terrace, (82-84) p. 40 GG.
 Nashwaak River, of terraces in valley, (82-84) p. 39 GG.
 Newcastle bridge, from borings made in 1872-73, (72-73) p. 237.
 Newcastle River below forks, (72-73) pp. 198-199.
 of Coal Measures, (72-73) p. 202.
 New River, Charlotte Co., of Huronian, (77-78) p. 4 E.
 Peters River, north of, of diabasic rocks, (79-80) p. 40 D.
 Queens and Sunbury Cos., of rocks in, (74-75) p. 85.
 Queens Brook, Petersville, of Upper Silurian, (75-76) pp. 355-357.
 St. John River, of terraces, in order from Woodstock upwards, (82-84) pp. 28-37 GG.
 Salmon Creek, Salmon River, of shales and sandstones of Upper Carboniferous, (72-73) p. 206.
 Salmon River, in bore-hole made in 1837, (72-73) p. 230.
 Shepody road to mouth of Little Salmon River, (77-78) p. 7 D.
 Upper Salmon River to Elgin Corner, of pre-Silurian rocks, (77-78) pp. 4-5 D.
 Washademoak Lake, of Lower Carboniferous, (72-73) p. 192.
 Westfield Station, of Silurian rocks, (77-78) pp. 2-3 E.

Sections in Quebec at the following localities:—

- Acton, of copper-bearing beds, (1863) p. 714.
 Amherst Island, Magdalen Is., of rocks facing Pleasant Bay, (79-80) pp. 3-4 G.
 Anticosti Island, of Anticosti Group on coast from Jupiter River to South-west Point, (1863) pp. 302-303.
 from Long Point to Jupiter River, (1863) pp. 300-302.
 of upper part Anticosti Group at South-west Point. (1863) p. 304.
 of lower division of Anticosti Group, Junction Cliff, (1863) pp. 298-300.

Sections in Quebec—*Cont.*

- Argenteuil Co., giving estimated thickness of Laurentian system, (1863) p. 45.
 Beauharnois, of Potsdam sandstones, (1863) pp. 105-106.
 Brome Tp., of specular schists, (1863) p. 680.
 Cape Gaspé, of limestone, with fossils of, (1863) pp. 391-394.
 Cap à la Roche, of post-glacial sands and clays, (1863) p. 921.
 Devil Brook. Ste. Anne River, near Mount Albert, of metamorphic rocks, (82-84) p. 17 F.
 Gaspé Co., across Hudson River rocks of, (1863) p. 270.
 Huntington mine, of metalliferous band, (63-66) p. 35.
 Lake Temiscouata, on west side, of Gaspé Series, (1863) p. 422-423.
 Mingan Islands, of Chazy Formation, (1863) pp. 134-135.
 Montmorency to Orleans Island, of Quebec Group, (1863) p. 234.
 Montreal, of Birds-eye and Black River Formation, with characteristic fossils, (1863) pp. 136-137.
 of Trenton limestone, with fossils, (1863) pp. 137-138.
 Montreal Mt., Cote des Neiges, of ancient sea beach, (1863) p. 918.
 Mount Wissick, of Gaspé Series, (1863) pp. 420-421.
 Phillipsburg, of Quebec Group, (1863) pp. 278-279.
 with divisions C and D, and fossils found in upper part, (1863) pp. 844-846.
 Port Daniel, of Niagara Formation eastward from, (1863) pp. 443-444.
 Rigaud, on Rivière à la Graisse, of Calciferous, (1863) p. 112.
 River Ste. Anne de Montmorency, of Utica and Hudson River Formation, (1863) pp. 198-199.
- Sections in Ontario at the following localities:—
 Addington Co., of crystalline rocks, measured by H. G. Vennor in 1874, (74-75) p. 106.
 Bastard Tp., of crystalline limestone, (1863) p. 32.
 Battle Islands, of sedimentary rocks, Nipigon Bay, Lake Superior, (1863) p. 78.
 Bedford Tp., showing position of ore-beds, (74-75) p. 120.
 Bertie Tp., *Eurypterus* of Lower Helderberg beds, (1863) p. 354.
 Black Lake, North Burgess Tp., of Laurentian, (72-73) pp. 164-165.
 Bluff Island, Charleston Lake, Leeds Co., of Potsdam sandstone, (1863) p. 92.
 Bosanquet Tp., of Hamilton Formation, (1863) pp. 382-383.
 Campement d'Ours, Lake Huron, of Birds-eye and Black River rocks, (1863) p. 196.
 Castor River, at Louck's mills, of Trenton limestone, (1863) p. 174.
 Corunna, in well, (63-66) p. 243.
 Doré River, Lake Superior, of Huronian, (1863) pp. 53-54.

Sections in Ontario—*Cont.*

- Echo River, Ont., of Huronian, note on, map and diagrams in Atlas, (1886) p. 61.
 Elora, of Guelph Formation, (1863) p. 340.
 Flamborough West, near Dundas, with fossils found in Niagara, (1863) pp. 325-326.
 Goderich, of superficial deposits, (76-77) p. 225.
 Goderich, in boring, (76-77) pp. 226-227.
 Hamilton and Ancaster, of Niagara Formation near, (1863) pp. 323-324.
 Hastings Co., middle and upper divisions of Hastings Series, (66-66) E. p. 144, F. p. 160.
 High Falls, Madawaska River, of Laurentian, (1863) pp. 29-31.
 Jones tract, near Cayuga, of Water-lime Formation, (1863) p. 354.
 Lanark Co., of Laurentian rocks, note on, (74-75) p. 123.
 of rocks of dolomite and slate group, (74-75) p. 131.
 McFarlane's tavern, south-west of Rockwood, of Niagara Formation, (1863) p. 331.
 Maberly Village, South Sherbrooke, gneiss and limestone north of, (74-75) p. 154.
 Maitland, in Augusta Tp., of Calciferous near, (1863) p. 111.
 Manitoulin Island, of Niagara Formation, (63-66) p. 175.
 Marmora iron-works, Crow River, basal beds of Trenton Group, (1863) pp. 181-182.
 Moira River, Trenton Group, basal beds, (1863) p. 180.
 of Birds-eye, Black River and Trenton Formations, (1863) pp. 185-186.
 Mount Healy, of plaster beds in Onondaga, (1863) p. 348.
 North Burgess Tp., of Laurentian, on lot 11, R. IV., (72-73) pp. 166-167.
 Older and Oso Tps., Laurentian rocks of, limestone bands, (72-73) p. 160.
 Pointe aux Mines, of Upper Copper-bearing rocks, near, (63-66) p. 132.
 Prescott, Ont., near wind-mill, of Calciferous, (1863) pp. 111-112.
 Ramsay Tp., Lanark Co., gneiss and crystalline limestones, Group V., (74-75) p. 152.
 Rideau Lake, showing nature of apatite deposits, (74-75) p. 111.
 Storrington Tp., near Dog Lake, of Potsdam sandstones, (1863) p. 98.
 Thorold, Hamilton, and near Dundas, of Clinton strata, (1863) pp. 313-314.
 Thorold, on Welland Canal, of Niagara Formation, with fossils, (1863) pp. 322-323.
 Vanluven's mills, Storrington Tp., of Trenton Group, basal beds of, (1863) p. 177.

Sections, east side Hudson Bay—

- of strata on Belanger Island, Nastapoka Sound, (77-78) p. 16 C.
 at Lead mine, Little Whale River, and south side of, (77-78) p. 13 C.
 of Manitounuck Series, on Nastapoka Islands, (77-78) pp. 15-18 C.

Sections, east side Hudson Bay—*Cont.*

on Hopewell Islands, (77-78) pp. 18-19 C.

Sections in Manitoba:—

- of Cretaceous on Swan River, (74-75) p. 65.
 at Rat Creek in bore-hole, (74-75) p. 3.

Sections in Assiniboia:—

- of Lignite Tertiary in St. Peter Gully, Souris River, (79-80) p. 6 A.
 on Short Creek, Souris River, (79-80) pp. 17-18 A.
 of strata at mouth of Short Creek, Souris River, (79-80) p. 5 A.
 on Souris River, near Rough-bark Creek, and at three miles south of, (79-80) pp. 19-21 A.
 of Lignite Tertiary of Great Valley, 49th parallel, (79-80) p. 24 A.
 of Tertiary in Pyramid Creek, 49th parallel, (79-80) p. 26 A.

Section at Carlton, Sask., of drift in bore-hole, (75-76) p. 284.

Sections in Alberta, of Belly River Series, in Red Creek, Milk River, (82-84) pp. 39-40 C.

- on Rocky Spring Plateau, (82-84) p. 42 C.
 in Fossil Coulee, Milk River ridge, (82-84) p. 50 C.
 south of Kipp's Coulee, (82-84) p. 52 C.
 near mouth of Belly River, (82-84) p. 76 C.
 of coal-bearing strata on North Fork Old Man River, North-west Branch, (82-84) p. 110 C.
 at Coal Banks, Sheran's mine, (80-82) p. 12 B., and (82-84) p. 72 C.
 at Grassy Island, Bow River, (82-84) p. 90 C.
 west of Medicine Hat, (80-82) p. 9 B., and (82-84) p. 77 C.
 on Middle Fork, Old Man River, (80-82) pp. 18-19 B.
 at Sheran's mine, Coal Banks, Belly River, and near Big Island, (80-82) p. 12 B., and (82-84) p. 72 C.
 of South Saskatchewan, above Medicine Hat, in Belly River Series, (82-84) p. 77 C.
 of coal-seams on Bow River, continuation of Coal Banks seam, (80-82) pp. 13-14 B.
 on Bow River, east of Blackfoot Crossing, (80-82) p. 16 B.
 on Belly River, below Coal Banks, (82-84) pp. 72-73 C.
 on Mill Creek, (80-82) p. 19 B.
 on St. Mary River, continuation of Coal Banks seam, (80-82) p. 10 B.
 of Fox Hill sandstone, Milk River ridge, (82-84) p. 49 C.
 of Laramie rocks on Bow River, mouth of Arrow-wood Creek, (82-84) p. 84 C.
 near Blackfoot Crossing, Bow River, (82-84) p. 85 C.
 at Scabby Butte, transition beds at base, (82-84) p. 79 C.
 of Pierre shales at mouth of St. Mary River, on Belly River, (82-84) p. 69 C.
 on Red Deer River, near Rosebud Creek, of rocks in banks of, (82-84) p. 94 C.

Sections in Alberta—*Cont.*

- at Rocky Mt. House, Saskatchewan River, (73-74) pp. 46-48.
- of drift-deposits at Wolf Island, Belly River, (82-84) p. 141 C.
- of Willow Creek beds in Belly Butte, Belly River, (82-84) p. 63 C.

Sections in Athabasca:—

- on Athabasca River estimated thickness of Cretaceous, (82-84) p. 16 CC.
- on upper part including lignite coal, (79-80) p. 126 B.
- of rocks of below Crooked Rapid, (82-84) p. 17 CC.
- of sandstones and shales near House River, (82-84) p. 9 CC.
- at foot of Grand Rapids, sandstones, (82-84) p. 10 CC.
- of tar-bearing sands above Fort McMurray, (82-84) pp. 18-19 CC.
- on Smoky River, of Upper Sandstones and Shales, (79-80) p. 125 B.
- at St. John, Peace River, of Mesozoic rocks, (75-76) pp. 72-73.

Sections in British Columbia at the following localities:—

- Alberni road, of measures near Horne Lake, (72-73) p. 56.
- Ballinac Islands, Str. of Georgia, of crystalline rocks at, (73-74) p. 98.
- Burrard Inlet, in bore-hole, (76-77) p. 189.
- Cape Ball, Q.C.Is., of clays and sands, north of, description and diagram, (78-79) p. 92 B.
- Coldwater River, near mouth, of coal-seam, (77-78) pp. 123-124 B.
- Comox, general, (76-77) p. 162.
- of strata on Browns Creek, (72-73) p. 36.
- of strata at Union Mine, (72-73) pp. 38-41.
- near Donaldson River, (76-77) p. 165.
- on brook near Fanny Bay, (76-77) p. 164.
- Deep Bay across Hornby Island, to Gillies Bay Texada Island, explanation of diagram on accompanying map, (76-77) p. 169.
- Graham Island, Q.C.Is., of clays and sands east side of, (78-79) p. 91 B.
- Hat Creek, of Tertiary beds, (77-78) p. 121 B.
- Hooper Creek Cowgitz, Q.C.Is., of coal measures, (72-73) p. 58.
- Hope-Similkameen trail, of crystalline rocks at summit, (77-78) pp. 62-67 B.
- Hope to South Kootenay Pass, (82-84) pp. 16-32 B.
- Hornby Island, of Middle Shales, (72-73) p. 47.
- of Upper Shales, (72-73) pp. 49-50.
- Marble Cañon, across anticline, (77-78) p. 91 B.
- Marble Island, Skidegate, of Lower Shales and Sandstones, (78-79) p. 67 B.
- Nanaimo, general, (76-77) p. 172.
- Nanaimo River, reference to, (76-77) p. 181.

Sections in British Columbia—*Cont.*

- Nechacco River, basalts and tuffs in, (76-77) p. 81.
- Nicola Lake, of Triassic rocks, (77-78) pp. 74-78 B.
- North Thompson River, of Tertiary beds at Indian Reserve, (77-78) pp. 113-114 B.
- Salmon River, of Porphyrite Series, (76-77) pp. 59-63.
- Sharp Point to Dodd Narrows, (76-77) p. 174.
- Shuswap Lake, across beds on, description of, (77-78) p. 99 B.
- Skagit River, of Cretaceous, (77-78) p. 106 B.
- Sooke, in bore-hole and from cliff, (76-77) p. 191.
- Spioos Creek, of crystalline rocks, (77-78) p. 72 B.
- Striped Mountain, Similkameen River (77-78) p. 85 B.
- Tolmie Channel, of rocks of coast, (74-75) p. 77.
- Tribune Bay, Hornby Island, of Upper Conglomerates, (72-73) pp. 50-51.

Sections, on Strait of Belle Isle and Newfoundland, of Potsdam and Quebec Group

- revised and discussed, (1863) pp. 865-880.
- at Table Head, Nfld., with lists of fossils (1863) pp. 869-871.
- of rocks in Pistolet Bay, Nfld., slates and serpentine, (1863) pp. 874-875.
- of Red Sandrock of Vermont, at Saxe's mill near Lake Champlain, (1863) p. 282.
- at Swanton, Vt., (1863) p. 284.
- of rocks in Pewabic mine, Michigan, (63-66) p. 155.
- of rocks in Colville Mill Valley, Wash., U.S.A., (82-84) p. 23 B.

Section Cove, Burnaby Island, Q.C.Is., description of limestone exposures, with section, (78-79) p. 55 B.

- diagram of section of rocks, (78-79) p. 56 B.
- Sedgwick Bay, Juan Perez Sound, Q.C.Is., B.C., description of, (78-79) p. 21 B.

Sedimentary magnetites, note on origin of, (73-74) p. 195.

Sedimentary rocks of Ontario and Quebec, general description of, (1863) pp. 586-642.

- decomposing action of water on, (1863) p. 571.
- constituents of, (1863) pp. 576-578.

Sediments, three classes of, general description, (1863) p. 578.

- elements in, discussion of combinations of, (1863) p. 579.

Seeley Head and Creek, N.B., rocks exposed on coast, (70-71) p. 93.

Segregated masses of apatite in apatite deposits, with section showing, (77-78) p. 10 G.

- examples at Emerald mine, Que., (82-84) p. 12 J.

Seine River, Ont., note on Huronian schists of, (73-74) p. 89.

- Laurentian rocks of, (72-73) p. 98.

Selaginites formosus, Dawson, wood-cuts of, (1863) p. 399.

Select committee on Geological Surveys, notes on report of, by A. R. C. Selwyn, (82-84) pp. 25-27.

Selenite crystals, in dark shale at Red Ochre Hills, N.W.T., (73-74) p. 75.
association with plant-beds of Lignite Tertiary of plains, (79-80) p. 27 A.

Selkirk, Man., examination and analysis of dolomitic limestone from, (82-84) p. 1 MM.

Selkirk road, Thunder Bay district, rocks exposed on, (66-69) E. p. 323, F. p. 356.

SELWYN, A. R. C., letter transmitting report of 1866-69, (66-69) E. p. 1, F. p. 1.
report of progress for 1869-70, (69-70) p. 3-14 Summ.
summary report of explorations of Geological Survey for 1870, (70-71) pp. 1-11.
summary report of explorations of Geological Survey for 1871, (71-72) pp. 11-15.
notes and observations on gold-fields of Quebec and Nova Scotia, (70-71) pp. 252-282.

journal and report of explorations in British Columbia, (71-72) pp. 16-72.

summary of personal work for 1872, (72-73) p. 1.
summary of operations of staff of Survey for 1872-73 by, (72-73) pp. 1-18.
notes on journey from Lake Superior to Fort Garry, (72-73) pp. 8-18.
notes on silver mining locations on Thunder Bay, (72-73) p. 8.
geological notes, Lake Superior to Fort Garry, (72-73) pp. 13-18.
report on Acadia iron-ore deposits, N.S., (72-73) pp. 19-27.
summary report of investigations of staff of Survey for 1873-74 by, (73-74) pp. 1-9.
appendix I, letter to Under Secretary of State with proposed plan of operations, (73-74) pp. 10-12.
summary of work of, in N.W.T., during 1873, (73-74) p. 3.
observations in the N.W.T., Fort Garry to Rocky Mt. House and return, (73-74) pp. 17-62.
letter of instructions to R. Bell for summer of 1873, (73-74) pp. 66-68.
sketch-survey of Saskatchewan River, published with French edition, (73-74)
summary report of operations of staff of Survey for 1874-75, (74-75) pp. 1-16.
summary of work of, during 1874-75, (74-75) p. 7.
letter of instructions to R. Bell, 1874, (74-75) p. 24.
summary report of geological investigations of staff of Survey for 1875-76 by, (75-76) pp. 1-7.
work of, at Philadelphia Exhibition, (75-76) p. 3.
summary of personal explorations in B.C., for 1875 (75-76) pp. 28-31.
journal of expedition through Peace River Pass, (75-76) pp. 31-69.

SELWYN, A. R. C.—Cont.

distances travelled during summer of 1875, (75-76) p. 68.
note on boring made in 1875 on Swan River, Assa., (75-76) pp. 292-293.
map showing route followed by, from Quesnel, B.C., to junction of Peace and Smoky Rivers, Atha., accompanying, (75-76).
note by, on relations of Quebec Group, (76-77) p. 4.
summary report of operations of staff of Survey for 1877-78 by, (77-78) pp. 1-9.
observations on stratigraphy of Quebec Group and older crystalline rocks of Canada, (77-78) pp. 1-15 A.
work by, in Eastern Townships on Quebec Group, (77-78) pp. 2-3.
summary report of operations of staff of Survey for 1879 by, (78-79) pp. 1-6.
summary of work in Quebec during 1879, (78-79) p. 3.
summary report of operations of staff of Survey for year 1880 by, (79-80) pp. 1-9.
note on origin of granites, treated as metamorphosed strata not intrusions, (79-80) pp. 5-6.
report on boring operations in the Souris River Valley, Man., 1880, (79-80) pp. 1-11 A.
fossil plants collected by, at Roche Percée, Souris River, Assa., notes by J. W. Dawson, (79-80) pp. 51-55 A.
summary report of operations of staff of Survey for 1881 by, (80-82) pp. 1-12.
summary report of operations of staff of Survey for 1882 by, (80-82) pp. 12-29.
summary of work in Lake Superior region in 1882 by, (80-82) pp. 16-17.
summary of explorations in Manitoba, 1882, White Mud River and Souris River, by, (80-82) p. 18.
on geological nomenclature and colouring and notation of maps, (80-82) pp. 47-51.
notes on geology of south-eastern portion of Quebec by, (80-82) pp. 1-7 A.
notes as to accuracy of plan of mouth of Moose River, surveyed by R. Bell, (80-82) p. 10 C.
summary of operations of staff of Survey for 1883, observations on work of for 1884, (82-84) p. 1-25.
work of, during 1883, on Lake Superior, in Souris coal district, Assa., and Cascade coal district, B.C., (82-84) pp. 1-2.

SELWYN, J. H., extracts from papers on petroleum as fuel, (74-75) pp. 283-284.

Selwyn Inlet, Q. C. Is., B.C., plan of, scale 2 knots = 1 in., (78-79) facing p. 15.
description of, (78-79) p. 26 B.
valley running westward towards Gold Harbour on west coast, (78-79) p. 26 B.
the rocks of, (78-79) p. 60 B.

Selwyn Lake, Carr River, Ont., (72-73) p. 100.

Selwyn River, Cranberry Lake, B.C., enters Fraser below Tête Jaune Cache, (71-72) p. 39-40.

Selwyn River—*Cont.*

agricultural character of valley, (71-72) p. 70.

Semi-anthracite, from Cascade River, Bow River Pass, analyses and calorific power of, (82-84) pp. 41-42 M.

of Pennsylvania description of by H. D. Rogers, (82-84) p. 43 M.

SEMPLE, M., examination of sample of antimony from Garden River, Rupert Land, (73-74) p. 7.

Seneca Tp., Ont., character of gypsum deposits near, (1863) p. 349.

note on, (1863) p. 762.

clay deposit in, (1863) p. 902.

Separation Lake, Ont., to Sandy Bay, Winnipeg River, canoe-route, (72-73) p. 103.
number of portages, (72-73) p. 12.

Sepiolite, origin of, (1863) p. 577.

Sequence of beds in Huronian on Lake Huron and vicinity, (1863) p. 52.

Series, value of term in Survey reports, (80-82) p. 48.

Serpent Island, Lake Huron, on outcrop of Trenton Group, (1863) p. 195.

Serpentine, general description, occurrences of and analyses, (1863) pp. 471-473.

analyses of varieties from Grenville, Calumet Island, Orford, Ham and Bolton, Que., (1863) p. 472.

in Canada derived from Laurentian and Palæozoic stratified rocks, (1863) p. 644.

of the Laurentian and the Quebec Group, description of, with localities, (1863) pp. 824-827.

in the Laurentian, general note on, (1863) p. 25.

occurrence and character of, (63-66) p. 205.

crystals of, (63-66) p. 204.

of Lower Cache Creek Series, B.C., (71-72) p. 62.

material employed in polishing of, (1863) p. 825.

values of French, Italian and English, when polished, (1863) p. 826.

from Abitibi Lake, analysis of from island in, (72-73) pp. 299-300.

Serpentine observed or collected, at Big ore-bed Belmont, Ont., associated with magnetite, example, (73-74) p. 204.

at Burntwood Lake, Sask., report of, (79-80) p. 13 C.

on Bonaparte River, B.C., in Cache Creek Group, sketch section of, (77-78) p. 94 B.

at Cape Rhumore, N.S., (76-77) p. 420.
from Bolton and Melbourne Tps., Que., chromiferous, characters and analysis, (74-75) p. 304.

from Dalhousie Tp., Ont., in limestone of, (76-77) p. 266.

in Eaton Tp., Que., from rocks of Quebec Group, (1863) p. 433.

from Esquimaux Harbour, B.C., analysis of, (71-72) p. 100.

Serpentine—*Cont.*

report of, on Hatchet or Wollaston Lake, Atha., (79-80) p. 16 C.

in Horton and Ross Tps., Ont., peculiar forms of, (76-77) p. 262.

on Iron Island, Island Lake, Keewatin, (78-79) p. 37 C.

on Kabinakagami Lake, Ont., near outlet of, (80-82) p. 5 C.

in rocks of Kelvin Brook, N.S., (77-78) p. 4 F.

on Lake Talon, Ont., (76-77) p. 207.

from Mansfield Tp., Que., in magnesian limestone, (76-77) p. 284.

in Meat Cove Brook, N.S., with limestone, (82-84) p. 20 H.

from Melbourne Tp, Que., analysis of, (74-75) p. 309.

from Melbourne, Que., microscopic structure of, (80-82) p. 19 A.

in Mistassini region, Que., (70-71) p. 8.

at Mount Albert and South Mountain, Que., of eruptive origin, (82-84) p. 32 E.

in vicinity of Mount Albert, Gaspé, stratified aspect of, (1863) p. 266.

derived from dunite, microscopic sectional diagram, (77-78) p. 41 G.

note on relations of serpentine and olivine of, (82-84) pp. 19-20 F.

in Newfoundland referred to, in altered rocks of west coast, (1863) p. 293.

in Pistolet Bay, Nfld., section of, ores in, (1863) p. 875.

in Parry Sound band, crystalline limestone on Georgian Bay, Ont., (76-77) p. 204.

on Pigeon Lake, Montreal River, Ont., (75-76) p. 304.

analysis of, (76-77) p. 483.

at Pisarinco Cuve, N.B., in limestones, (70-71) p. 45.

at Portland, St Stephen and Pisarinco, N.B., (70-71) p. 238.

in Potton Tp., Que., minerals found with, (1863) p. 248.

report of, from Reindeer Lake, Atha., (78-79) p. 38 C.

from Rivière des Plantes, Que., microscopic structure of, (80-82) p. 19 A.

at South Mountain, Que., (82-84) p. 32 E.

at Syracuse, N.Y., example of local metamorphism with analysis, (1863) p. 635.

on Talon Lake, Ont., (76-77) p. 207.

in Talon Tp., Montmagny Co., Que., masses of, (66-69) E. p. 137, F. p. 153.

see also Ophiolite.

Serpentine limestone, on the Coxheath road, N.S., (76-77) p. 427.

in Dalhousie and Darling Tps., Ont., (76-77) p. 253.

at Desert River, Gatineau, Que., (76-77) pp. 294, 298.

of diorite band, Lanark Tp., Ont., characters of, (74-75) pp. 138-139.

in Lanark and Ramsay Tps., Ont., (74-75) pp. 155.

at New Campbellton, N.S., (70-71) p. 5.

in North Mountain, West Bay, N.S., near Kenneth Campbell's, (79-80) p. 20 F.

- Serpentine limestone—*Cont.*
 in Ramsay Tp., Lanark, Ont., (74-75) p. 157.
 in South Sherbrooke Tp. Ont., (74-75) p. 154.
 in Thorne Tp. Que., (76-77) p. 293.
- Serpentine marbles, note on Laurentian of Grenville and Wentworth, Que., (1863) p. 824.
- Serpentine River, Victoria Co., N.B., extent explored, (66-69) E. p. 201, F. p. 222.
 assays of ores from, for gold by T. S. Hunt, (66-69) E. p. 209, F. p. 232.
 mining leases for gold taken out on, (66-69) E. p. 209, F. p. 232.
- Serpulites*, phosphatic nature of, occurrence of on Rivière Ouelle, Que., (1863) p. 259.
 analysis of, (1863) p. 462.
 referred to, (76-77) p. 434.
- Service-berries, in British Columbia, note on, (79-80) p. 176 B.
 Indian harvest of, near Fort Fraser, B.C., (76-77) p. 45.
 on Smoky River, date of harvest, (79-80) p. 53 B.
- Settlement, along Gulf of St. Lawrence in New Brunswick, confined to narrow belt, (80-82) p. 6 D.
 of lands on the Restigouche River, N.B., (79-80) p. 4 D.
 on Manitoulin Island, Ont., (63-66) p. 169.
 at Whitefish Lake, Northern Alberta, agriculture at, (79-80) p. 98 B.
- Settling rooms, Syracuse solar salt-works, (66-69) E. p. 228, F. p. 252.
- Seven-foot coal-seam, opposite New Glasgow, N.S., (66-69) E. p. 82, F. p. 92.
- Seven Islands, Gulf of St. Lawrence, Que., labradorite rocks of, referred to, (1863) p. 46.
 anorthosite rocks of coast east of, (1863) p. 66.
 possible outcrop of Potsdam rocks on, (1863) pp. 96-97.
- Seven-mile Inn, Lancaster Tp., N.B., Laurentian rocks west of, (70-71) p. 44.
- Seven-mile Lake Brook, Musquash River, N.B., Kingston Group on, (70-71) p. 124.
- Seven Persons River, Alta., continuation of Chin Coulée, (82-84) p. 19 C.
- Seymour River, Keewatin, note on collection of rocks from by Bishop of Moosonee, Huronian band on Trout Lake Branch, (79-80) p. 4 C.
- Sextant Rapids, Abitibi River, Ont., crystalline diorite, (77-78) p. 36 C.
- Seymour Arm, Shuswap Lake, B.C., altered rocks of, (77-78) p. 99 B.
 granitic alterations of beds, (77-78) p. 100 B.
 glaciated surfaces of rocks on, (77-78) p. 138 B.
- Seymour Creek, B.C., gold on, (76-77) p. 143.
- Seymour Narrows, B. C., deposit of iron-ore reported near, (73-74) p. 101.
 iron-ore locality referred to, (76-77) p. 146.
- Seymour ore-bed, Madoc, Ont., chlorite slate at, (63-66) p. 96.
 description of, (63-66) p. 98.
 horizon of ore traced through Madoc, (66-69) E. p. 150, F. p. 167.
 traced eastwardly, (66-69) E. p. 152, F. p. 168.
 analysis of ore from, (66-69) Z. p. 259, F. p. 287.
 note on occurrence of iron-ore, (73-74) p. 196.
 composition of actinolite found at, (73-74) p. 202.
 malachite with magnetite at, (73-74) p. 203.
 magnetite free from pyrites at, (73-74) p. 203.
 occurrence of uran-ochre with magnetite at, (73-74) p. 205.
- Seymour Tp., Ont., exposures of Trenton in, (1863) p. 188.
 notes on magnetic iron-ore deposits of, (1863) p. 676.
- Shaft-sinking, in Cariboo District, B.C., or buried channels, (76-77) p. 109.
- Shag Island, Magdalen Is., Que., rocks composing, (79-80) p. 7 G.
- Shale bands, on North Branch Highwood River, Alta., (82-84) pp. 104-105 C.
- Shales, bituminous, general note on composition, and distribution, (1863) pp. 784-785.
 bleached by solfataric action on Nechacco River, B.C., (76-77) p. 73.
 Loraine, or Hudson River Formation, in Canada, general description of, (1863) pp. 198-224.
 from Island of Orleans, Que., analysis of, (1863) p. 600.
 near Pointe aux Mines, Ont., (76-77) p. 215.
 red and grey marly, overlying Albert shales, N.B., (76-77) p. 373.
 and sandstones, overlying Nanaimo coal measures, B.C., (76-77) p. 185.
See also under formation names as, Pierre shales, etc.
- Shallow Bay, Cowgitz, Q.C.Is. B.C., trap in contact with coal-bearing rocks, (72-73) p. 60.
- Shamattawa River, Keewatin, branch of Hayes River, size of, (77-78) p. 8 CC.
- Shannon settlement, N.B., Huronian rocks on road to Golding's Corners, (70-71) p. 75.
 Lower Carboniferous limestone resting on Devonian and Silurian, (72-73) p. 191.
- Shanty Point, McKay Lake, Algoma, garnetiferous schists, (70-71) p. 333.
- Sharbot Lake, Ont., band of crystalline limestone, (73-74) p. 104.
 probable break in limestones and dolomites at, (74-75) p. 148.
 rust-colored hornblende rock, Group IV., (74-75) p. 150.
 limestone band included in Group V., (74-75) p. 151.
 Playfairville and Lanark limestone bands, on, (74-75) pp. 140-151.
 assay of hematite from, (82-84) p. 17 MM.

- SHARP, E. N., coal-seams formerly worked on license of, at Springhill, N.S., (73-74) p. 159.
- Sharp Point, Nanaimo Harbour, B.C., sandstones of, (71-72) p. 85, and (76-77) p. 174.
- Sharp-rock Portage, Missinaibi River, Ont., schists suitable for scythe-stones at, (75-76) p. 333.
- Shasta Group, correlated with Jackass Mt. Group, of B.C., at Tatlayoco Lake, (75-76) p. 253.
fossils of, found elsewhere in B.C., (77-78) p. 168 B.
- Shatagami Lake, Ont., topography of Huronian and Laurentian rocks at, (75-76) p. 306.
- Shawanaga River, Georgian Bay, Ont., rocks at fall, (76-77) p. 201.
- Shawanaga, Indian name for Franklin Inlet, Georgian Bay, (76-77) p. 31.
- Shawenegan, Que., analysis of iron-ore from, (76-77) p. 474.
- Shawenegan to Tingwick, Que., coloured section, (1863) Atlas.
- Shaw Point, Rocky Bay, Richmond Co., N.S., diorite-felsite and quartz-felsite at (79-80) p. 4 F.
- Shaw's mill, Beccaguimic River, N.B., description of kame near, (82-84) p. 24 GG.
- Shaw's mill, Wickham, N.B., blending of series of Lower Carboniferous, (70-71) p. 212.
- Shaw's mill, Gaspé, analyses of mineral resin from, (1863) p. 792.
- Shebandowan gold region, Ont., description of by P. McKellar, (72-73) p. 110.
- Shebandowan Lake, Ont., description of, specimens of rock from, (66-69) E. p. 330, F. p. 364.
schists at outlet and on western part, (72-73) p. 95.
Huronian band of rocks at, (72-73) p. 107.
western limit of Kaministiquia red clay, (72-73) p. 111.
- Shebaskong Bay, Lake of the Woods, Ont., note on rocks of, (80-82) p. 15 C.
- Sheeks Island, St. Lawrence River, Chazy limestone exposed on, (1863) p. 127.
- Sheep Creek, Highwood River, Alta., size, etc., of, (82-84) p. 27 C.
disturbed band of Cretaceous and Laramie on, (82-84) p. 106 C.
diagrammatic section of rocks in disturbed belt, (82-84) facing p. 106 C.
- Sheffield Tp., Ont., analysis of Laurentian dolomite from, (1863) p. 593.
deposits of marl in, (1863) p. 764.
peat deposits of, referred to, (1863) p. 780.
note on ridges of boulders in, large boulder, (1863) p. 895.
dolomite in, (63-66) p. 94.
stibnite in, (63-66) p. 105.
- Sheffield Vault, Bay of Fundy, N.S., minerals of vicinity of, (82-84) p. 27 L.
- Shefford Co., Que.:—
for general geology see *Part I*, p. 10.
- Shefford Mountain, Que., intrusive trachyte in Quebec Group at, (1863) p. 239.
orthoclase of trachyte, analysis of, (1863) p. 476.
examination of trachyte and reference to analysis of felspar from, (1863) p. 657.
to Mille Isles, Que., coloured section, (1863) Atlas.
- Shefford Tp., Que., copper-ore localities in, (1863) p. 721, and, (63-66) p. 300.
note on trachytes of as building stones, (1863) p. 812.
quartz-free porphyry from lot 24, R. III, microscopic structure of, (80-82) p. 10 A.
- Sheguiandah Bay, Manitoulin Island, Utica Formation exposures on, (1863) pp. 216-217.
quartzites at head of, (63-66) p. 170.
surface oil-springs at, (63-66) p. 179.
rocks of, (76-77) p. 210.
- Sheguiandah Island, Lake Huron, Trenton Group of rocks exposed on, (1863) p. 194.
fossils of Utica Formation from, (1863) p. 217.
- Shell-bark hickory, note on range of in Canada, (79-80) p. 55 C.
- Shell beds, near Victoria, B.C., on Saanich road, (71-72) p. 94.
- Shelbourne Bay, Vermont, U.S.A., dyke of conglomerate, probably similar to that at Pointe Claire, Que., (1863) p. 357.
- Sheldon Point, St. John Harbour, N.B., Huronian rocks at, (70-71) p. 175.
specular iron-ore at, (70-71) p. 223.
asbestos with epidote at, (70-71) p. 238.
zoisite in fibrous mass with pistacite and asbestos, (70-71) p. 240.
boulder-clay at, (77-78) p. 16 EE.
section of Leda clay beds west of, organic remains in, (77-78) p. 24 EE.
- Shell-fish used as food by Haida Indians of Queen Charlotte Islands, (78-79) p. 111 B.
- Shell-marl, of Belledune Point and Charlo Station, N.B., (79-80) p. 42 D.
in lakes near New Carlisle and Paspebiac, Bonaventure Co., Que., referred to, (80-82) p. 30 D.
- Shell River, Man., description of valley at elbow, by R. Bell, (74-75) p. 31.
exploration of by J. W. Spencer, (74-75) p. 58.
Neozoic deposits, bones of *Elephas primigenius*, (74-75) pp. 50, 63.
- Shells used as currency among Haida Indians of Q.C.Is., B.C., (78-79) p. 135 B.
- Shelly seam, section at outcrop in Sydney Harbour, N.S., (74-75) p. 234.
horizon of, (74-75) p. 198.
- Shenacadie, N.S., Silurian rocks of, (76-77) p. 432.
- Shenacadie Brook, N.S., syenitic rocks of, (76-77) p. 408.
kame in valley at mouth of, (82-84) p. 22 GG.

- Sheogomoc River, N.B., inclusions in granite on, (82-84) p. 24 G.
- Shepody Mountain, N.B., topographical situation of, (70-71) p. 17.
conglomerates of Lower Carboniferous in, (70-71) p. 209.
manganese-ores of, (70-71) p. 224.
mode of occurrences of manganese in, (77-78) p. 10 D.
note on working of manganese deposit at, (78-79) p. 24 D.
- Shepody road, St. John and Albert Cos., N.B., exposures of pre-Silurian rocks on, (77-78) p. 4 D.
- Sheppard's gold-mine, Tudor Tp., Ont., note on, (82-84) p. 12 L.
- Sheppard's mica-mine, Palmerston Tp., Ont., note on, (82-84) p. 14 L.
- Sheppardton, Ont., exposures of Corniferous Formation on lake-shore near, (1863) p. 375.
- Shequanandol Bay and Island, Manitoulin Island see Shegandah.
- Sheran's mine, Coal Banks, Belly River, Alta., section of coal-seams at, (80-82) p. 12 B.
character of outcrop of coal at, section of measures, (82-84) p. 71 C.
- Sherbrooke, N.S., statistics of gold for 1869-71, (71-72) p. 150.
- Sherbrooke, Que., red jasper and conglomerate in Quebec Group slates, (1863) p. 252.
note on jasper in Quebec Group, near, (1863) p. 599.
copper-ores in rocks of vicinity, at the Ascot mine, (1863) p. 732.
note on jasper band in rocks of, (1863) p. 834.
assay of copper-pyrites from for silver, (77-78) p. 52 G.
- Sherbrooke Co., Que.:—
for general geology see *Part I*, p. 10.
- Sherbrooke gold district, N.S., H. Y. Hind, on intercalated beds of, (70-71) p. 260.
- Sherrick's Mount, James Bay, Hudson Bay, rocks of, (75-76) p. 323.
- Sherrington Tp., Que., note on peat deposits in, (1863) p. 642.
note on peat-bog in, quality of peat, per cent of ash, (1863) p. 782.
- Sherwood Lake, Musquash River, N.B., granite area, (70-71) p. 184.
- Sherwood's Mill-stream, Hammond Tp., N.B., felspathic sandstones on, (77-78) p. 13 DD.
- Sherwood Rips, Musquash River, N.B., coarse red granite at, (70-71) p. 185.
- Shibaishkong Island, Georgian Bay, crystalline limestone reported on, (76-77) p. 203.
- Shibaonaning or Killarney, Ont., copper-ore reported from (1863) p. 697.
rocks in vicinity of, (76-77) pp. 193, 195, 208, 210.
- Shikshock Mountains, Gaspé, Que., note on geological structure, height, etc., (1863) p. 3.
rocks of Silurian series along south base of, conglomerates of northern slope, (1863) p. 265.
general description of rocks of, epidiosite rocks, (1863) p. 265.
note on rocks of, (1863) p. 598.
reference to rocks of containing copper-ore, (1863) p. 734.
note on character and horizon of rocks of, probable minerals, (80-82) p. 19.
microscopic structure of felspathic grauwacke or sandstone from Rivière Ste. Anne, (80-82) p. 23 A.
note on timber in valley of, (82-84) p. 10 E.
general note on eruptive rocks of, (82-84) pp. 32-34 E.
note on reported gold discovery in, (82-84) p. 34 E.
metamorphic pre-Cambrian rocks of, (82-84) pp. 16-19 F.
- Shigawake Point, Bay of Chaleurs, Carboniferous rocks resting on Silurian slates, (80-82) p. 8 D.
Silurian rocks exposed on coast at, (80-82) p. 14 D.
- Shiguash River, N.B., rocks at mouth of on St. John River, (1863) p. 426.
- Shin Creek, N.B. character of Lower Carboniferous on, (72-73) p. 186.
concretionary limestone and traps of, (72-73) p. 187.
beds below conglomerate overlying trap at, (72-73) p. 189.
character of porphyries on, (72-73) p. 229.
felsite area south of, (75-76) pp. 351-352.
- Shingle Bay, Skidegate Inlet, B.C., rocks of, (78-79) p. 70 B.
- Shingle spit, Hornby Island, B.C., Middle Shales at, (72-73) p. 48.
- Ship Head near Cape Gaspé, Que., Devonian rocks at, (80-82) p. 9 DD.
- Shippegan, N.B., stratigraphical position of coal-seams at, (80-82) p. 6 D.
- Shippegan Island, N.B., note on reported coal of, (79-80) p. 6 D.
peat deposits of, referred to, (79-80) p. 43 D.
reported outcrop of coal on, (79-80) p. 46 D.
- Shippegan Map-sheet of part of Gloucester Co., N.B., scale 4 miles = 1 in., (80-82) accompanying Part D.
- Shipping facilities at salt wells in Ontario, (74-75) p. 268.
- Shipshaw River, Saguenay River, Que., gneissic series at, (82-84) p. 6 D.
labradorite area near, (82-84) p. 7 D.
occurrence of ilmenite noted, (82-84) p. 9 D.
Trenton limestone exposures on, (82-84) p. 11 D.
- Shipton Pinnacle Mountain, Que., conglomerate of, red jasper in, (1863) p. 253.

- Shipton Tp., Que., outcrop of lower slates along anticline in, (1863) p. 240.
 micaceous rocks in, potstone, etc., (1863) p. 252.
 analysis of muscovite from, (1863) p. 494.
 soft potstone-like rock of, reference to analysis of, (1863) p. 799.
 gneiss of as building stone (1863) p. 811.
 slate quarries in, (63-66) p. 45.
 copper-ore localities in, (63-66) p. 314.
 microscopic structure of rocks from lots 7 and 8, R. XII, (80-82) pp. 8-10 A.
 microscopic structure of highly felspathic grauwacke from lots 11, 12 and 13, R. VI., (80-82) pp. 21-22 A.
- Shipton and Leeds syncline, general description of rocks of, (1863) p. 256.
- Shoal Bay, North Saanich, B.C., coal-bearing rocks at, fossils of, (71-72) p. 88.
- Shoal Islands, B.C., rocks at, (76-77) p. 183.
- Shoal Lake, Umbabika River, Ont., gneiss of, strike of rocks, (71-72) p. 108.
- Shoal Lake, Man., near Birtle, description of soil of surrounding county, (73-74) p. 25.
 east of Lake Manitoba, note on, (74-75) p. 62.
- Shoal River, Lake Winnipegosis, Man., general description of, (74-75) p. 60.
- Shogamoc River *see* Sheogomoc River.
- Shoolbred, Que., exposures of Devonian rocks near Robitaille, P.O., (80-82) p. 11 D.
- Shore road, Cape Breton Co., N.S., felsites exposed on, (77-78) p. 8 F.
- Short Creek, Souris River, Assa., section of lignite-coal measures, (79-80) p. 5 A.
 lignite seams on east branch of, near International boundary line, (79-80) p. 6 A.
 sections of Lignite Tertiary on, (79-80) pp. 17-18 A.
 diagrammatic section of Tertiary beds in, (79-80) facing p. 28 A.
 analysis of lignite from, (79-80) p. 9 H.
- Shumways Lake, B.C., description of trail to Nicola Lake, (77-78) p. 27 B.
 description of valley, (77-78) p. 28 B.
 altered argillites of, (77-78) p. 79 B.
- Shuniah mine, Thunder Bay District, Ont., note on, (66-69) E. p. 361, F. p. 400.
 course of vein at, (72-73) p. 109.
 shafts sunk at, (72-73) p. 110.
- Shuswap Lakes, B.C., antimony, copper and galena at, (76-77) p. 149.
 position of, general description, country bordering lakes, (77-78) pp. 21-26 B.
 dependence of valleys on rock formations, (77-78) p. 25 B.
 the rocks of, provisional divisions, (77-78) pp. 96-101 B.
 rocks of division A. (Shuswap Series), (77-78) p. 97 B.
 rocks of division B. (Nis'nonlith Series) rocks of divisions C. D. (Adams Lake Series), (77-78) pp. 97-98 B.
- Shuswap Lakes, B.C.—*Cont.*
 description of section (No. 6) across part of, (77-78) p. 99 B.
 thickness of rock divisions, (77-78) p. 100 B.
 line of disturbance across Copper Island, (77-78) p. 100 B.
 moraine at outlet of, (77-78) p. 149 B.
 mica of North-east Arm, (77-78) p. 162 B.
 limestone of, (77-78) p. 163 B.
 building stone of, (77-78) p. 165 B.
 diagrammatic section of arrangement of rocks on, (77-78) facing p. 174 B.
- Shuswap Series, notes on division A. on Spallumcheen (Mara) Arm, (77-78) p. 97 B.
- Shuswap Valley, B.C., flat land in upper part, (77-78) p. 59 B.
- Shuttle Island, Darwin Sound, Q.C.Is., B.C., description of, (78-79) p. 24 B.
 rocks of, (78-79) p. 58 B.
- Sicamous Narrows, Shuswap Lake, B.C., depth of water in channel, (77-78) p. 25 B.
- Sickness, among Haida Indians, formalities observed, (78-79) p. 13 B.
- Siderite or spathic iron, with hematite, note on occurrences of, (73-74) p. 223.
 with magnetite, example of occurrence in Marmora, Ont., (73-74) p. 204.
- Sidney Tp., Ont., exposures of Trenton Formation on Trent River, (1863) p. 188.
 lake without inlet in, (1863) p. 909.
- Sieganagah Lake, Ont., altered sandstone on, (72-73) p. 93.
- Siemen's direct process of making steel, (66-69) E. p. 295, F. p. 326.
- Siemens-Martin process of producing steel, (66-69) E. p. 294, F. p. 325.
- Siemen's regenerative furnace, description of, (66-69) E. p. 296, F. p. 327.
- Sierra de San Cristoval, note on height and situation of, Q.C. Is., B.C., (78-79) p. 24 B.
- Sierra Nevada, period of uplift, (76-77) p. 104.
- Sigillaria* in Coal Measures of McLellan Brook, Pictou, N.S., (66-69) E. p. 21, F. p. 23.
- Sigillaria Sydneensis*, Dawson, wood-cut of stump and roots of, from Emery mine, N.S., (74-75) p. 196.
- Signay Tp., Lake St. John, Que., small basin of Trenton in Laurentian on lot 25, R. VIII., (82-84) p. 14 D.
 limestone beds exposed on lot 30, R. VIII., (82-84) p. 14 D.
- Signs and colours used on maps and sections, index to the, (80-82) facing p. 47.
- Si-gut-lat Lake, B.C., general description of, (76-77) p. 28.
 description of porphyryite from, (76-77) p. 67.
 fossils from, (76-77) pp. 150-159.
- Si-ka-ta-pa Lake, B.C., situation of, (76-77) p. 34.
- Silica, dissolved in waters of Ottawa and St. Lawrence rivers, (1863) pp. 565-568.
 note on deposits of, (1863) p. 574.

- Silicified fossils, note on occurrence of, (1863) p. 629.
- Silicified limestones on Stuart Lake, B.C., (76-77) p. 55.
- Silicified wood, in rocks of Red Deer River, Alta., (82-84) p. 94 C.
from Red Ochre Hills, Assa., examined by J. W. Dawson, (73-74) p. 75.
- Silicate of alumina in waters, examples of deposits from, (1863) p. 577.
- Silicate of lime, in waters of Gillan's mineral springs, (1863) p. 559.
in alkaline mineral-waters, (1863) p. 574.
- Silicate of magnesia, in mineral-water, (1863) pp. 559-577.
- Silicate of soda in mineral-water in Canada, note on, (1863) p. 558.
- Silicates, general description of, with notes on composition and distribution, (1863) pp. 463-473.
T. Sterry Hunt's remarks on origin of in *Eozoon*, (63-66) pp. 229-233.
- Silicious conglomerate of Bay of Chaleurs, of Devonian age, (80-82) p. 9 D.
- Silicious deposits, at Sinter Knoll, near Gatcho Lake, B.C., (76-77) p. 80.
in Tertiary rocks at Vermilion Cliff, Tulameen River, B.C., (77-78) p. 131 B.
- Silicious infusoria, in deposit of Petawawa River, (1863) p. 930.
- Silicious schists, on Montreal River, Lake Superior, (76-77) p. 217.
- Silicious slate, at Echo Lake, Ont., (76-77) p. 210.
- Silico-aluminous rocks, origin of, (1863) p. 570.
classes of, (1863) pp. 645-646.
- Sillery, Que., the sandstones of, above Lévis Formation, thickness and character of beds, (1863) pp. 231-232.
note on occurrence of coal-like matter (anthraxolite) in rocks of, (1863) p. 525.
note on sandstone at, for building stone, (1863) p. 814.
- Sillery Seigniory, Que., copper-ore localities in, (63-66) p. 321.
- Sillery division of Quebec Group, thickness and character of sandstones at Sillery, Que., (1863) pp. 231-232.
on Rivière du Sud, Que., (1863) p. 258.
basins of on south side of St. Lawrence, below Quebec, general descriptions of, (1863) pp. 258-268.
similarity of rocks, on Strait of Belle Isle to, (1863) p. 293.
on Lake Matapedia, Que., (1863) p. 414.
conglomerates of Black River and Shiguash River probably belong to, (1863) p. 427.
general note on rocks of, (1863) p. 598.
note on the building stone of, (1863) p. 814.
on Pistolet Bay, Nfld., position in series, (1863) p. 880.
note on, (63-66) p. 5.
- Sillery division of Quebec Group—*Cont.*
thickness and general section, character of in first and second synclines, (63-66) pp. 36-37.
lower beds characterized by presence of iron-ore, (63-66) p. 37.
jasper bands passing to hematite, (63-66) p. 40.
in Islet du Portage and Rivière du Loup Tp., Que., (66-69) E. p. 132, F. p. 147.
in north-west syncline, Dorchester to Kamouraska, Que., (66-69) E. p. 134, F. p. 149.
upper magnesian band, on Chaudière River, Que., (66-69) E. p. 135, F. p. 151.
on second anticline, north-east of Chaudière River, Que., (66-69) E. p. 135, F. p. 151.
and Lauzon not separated in Gaspé Peninsula, (80-82) p. 31 DD.
- Sillery sandstone, in St. Mary and Joliet Seigniories and at St. Gervaise, Que., (1863) p. 257.
apparently above conglomerates of Quebec Group at Quebec and Bonne Bay, Nfld., (1863) p. 293.
of south-western basin of Quebec Group, (1863) p. 343.
at Quebec, density of, (63-66) p. 283.
exposed on Dartmouth River, Gaspé, Que., (80-82) p. 12 DD.
and Lévis beds of Gaspé Peninsula, Que., (80-82) pp. 24-31 DD.
- Sillery syncline on St. Lawrence River, below Berthier and St. Ignace, (66-69) E. p. 131, F. p. 147.
- SILLIMAN, PROF. B., paper on hydraulic mining methods in California, (63-66) p. 89.
analysis of coal from Nova Scotia colliery, (66-69) E. p. 386, F. p. 429.
quoted, on gold-bearing quartz of Virginia, (70-71) p. 259.
on gold in pyrites, from report on Taugier gold district, N.S., (70-71) p. 279.
- Silt, of the Peace River plateau, (79-80) p. 140 B.
- Silts, white, in valley of upper Nechacco River, (76-77) pp. 43-44.
see White silts.
- Silurian, definition of term in Survey Reports, (78-79) p. 5.
- Silurian conglomerate, composed of pre-Silurian detritus, on Kelvin Brook, N. S., (77-78) p. 15 F.
- Silurian dolomite, of Nelson River, Keewatin, note on, (77-78) p. 12 CC.
- Silurian drift, found on Lake Superior, (1863) p. 893.
- Silurian fossils, from near Black Cape, Bay of Chaleurs, Que., (82-84) p. 27 E.
from Cape Rosier Bay, Gaspé, Que., (82-84) p. 30 E.
from Nelson River, Keewatin, notes on, (78-79) pp. 47-48 C.
from Red River, St. Andrews Parish, Man., notes on, (78-79) pp. 45-47 C.
from forks of Scaumenac River, Que., list of, (82-84) p. 26 E.

Silurian fossils—*Cont.*

- from Stony Mountain, Manitoba, list of, notes on, (78-79) pp. 49-50 C.
 in rocks on lower part of Tobique River, N.B., (66-69) E. p. 201, F. p. 223.
- Silurian Formation, (Upper Silurian) of New Brunswick, general characters and extent mapped out, (78-79) pp. 9-11 D.
 of eastern New Brunswick, distribution of, superposition on Cambro-Silurian, local descriptions, (79-80) pp. 14-22 D.
see also Mascarene Series.
- rocks of Clinton age at Wentworth Station, N.S., fossils of, (74-75) p. 9.
 of eastern Canada, note on Palæontology of, (72-73) p. 3-4.
 in Ontario and Quebec, *see under the following references* :—
 Anticosti Group, Medina Formation, Clinton Formation, Niagara Formation, Guelph Formation, Onondaga Formation, and Lower Helderberg Group.
 faults in, not affecting Laurentian gneiss, (76-77) p. 276.
- Silurian outlier, near Arnprior, Ont., (76-77) p. 246.
 in valley of Madawaska River, Ont., (76-77) p. 273.
 on Kenogami River, Ont., fossils of, (70-71) p. 339.
 in Ottawa Valley, (76-77) pp. 272-279.
 on Tête à Gauche River, N.B., (79-80) p. 18 D.
- Silurian rocks, on Allumette Island, Ottawa River, (76-77) p. 277.
 at Bay of Seven Islands, Que., (66-69) E. p. 307, F. p. 340.
 traces of, on Bonnechère River, Ont., (76-77) pp. 251, 257.
 notes on hematite in, (73-74) pp. 214-217.
 in Westmeath, Ont., (76-77) p. 277.
 of Bonaventure Co., Que., extent and character, (80-82) pp. 13-15 D.
 of Gaspé Peninsula, Que., distribution of, (80-82) pp. 15-16 DD.
 distribution in interior, (82-84) pp. 25-30 E.
 description of exposures on Ste. Anne and Magdalen rivers, (82-84) pp. 12-14 F.
 exposures of on Saskatchewan River, Pine Island Lake and Beaver Lake, Sask., (73-74) p. 52.
 of Restigouche Co., N.B., note on, intrusions in, north of Bathurst, N.B., (80-82) pp. 12-13 D.
 of York and Carleton Cos., N.B., general characters, fossils and description of outcrops, unconformity at base of, (82-84) pp. 7-9 G.
- Silurian sandstones near Calabogie Lake, Ont., (76-77) p. 250.
- Siluro-Devonian, term suggested by A. R. C. Selwyn for rocks of south-eastern Quebec, (80-82) pp. 1-2 A.

Silver, assays of ore.

- see* Galena and Silver-ores in *Part II.*, pp. 26, 32.
- Silver, occurrence of in British Columbia, general note on, (76-77) p. 131.
 in Cape Breton Island, N.S., note on occurrence of, (82-84) p. 97 H.
 at Cherry Creek, B.C., note on, (76-77) p. 132.
 note on occurrence of, on East Main coast of Hudson Bay, (77-78) p. 20 C.
 at Hope, B.C., note on workings in 1861, (82-84) p. 38 B.
 in galena from Little Whale River, (75-76) p. 324.
 note on occurrence of, in southern B.C., at Hope and Cherry Creek, B.C., (77-78) p. 160-161 B.
 general note on mode of occurrence in rocks of Upper Copper-bearing rocks, (1863) p. 75.
 native, at Prince's mine, Lake Superior, with copper-ore, (1863) p. 708.
 from placer mines and at Vital Creek in B.C., (76-77) p. 116.
 in native copper of Lake Superior, (1863) p. 707.
- Silver-ore from Jackfish Bay, Lake Superior, assay of, (76-77) p. 479.
 from Spanish River, Ont., assay of, (79-80) p. 19 H.
 from Van Bremer mine, B.C., assays of, (76-77) p. 131.
see also Galena and Silver-ores, *Part II.*, pp. 26, 32.
- general distribution in Ontario and Quebec, (1863) p. 517.
 general note on, with references to description, (1863) p. 738.
 occurrence of, in rocks, from Carboniferous to Tertiary, in Nevada, U.S.A., (71-72) p. 52.
 from Eureka mine, B.C., report by T. S. Hunt on, (71-72) p. 66.
 of Thunder Bay, Prince's location, Jarvis location, and Woods location, (66-69) E. p. 361, F. p. 399.
 occurring in volcanic series of B.C., (71-72) p. 57.
 statistics for 1869-71 for Ontario, (71-72) p. 147.
- Silver Brook, Gaspé Basin, Que., note on petroleum spring at, (1863) p. 403.
 referred to, (1863) p. 521.
 petroleum locality, boring made at, (1863) p. 789.
- Silver City, Laggan, B.C., on C.P.Ry., assay of copper-ore from, (82-84) p. 3 MM.
- Silver Harbour mine, Thunder Bay, Ont., character of vein, shafts sunk, (72-73) p. 109.
- Silver Heights, Man., drift composed of Lower Silurian débris, (73-74) p. 83.
- Silver Islet, Lake Superior, Marfarlane's description of vein, (66-69) E. p. 361, F. p. 399.

- Silver Islet, Lake Superior.—*Cont.*
 amount of silver extracted 1868-9, (66-69) E. p. 361, F. p. 399.
 progress of mining, ore removed, (72-73) p. 108.
- Silver Islet dyke, width of, distance traced inland, (72-73) p. 92.
- Silver Islet Mining Co., statistics for 1869-71, (71-72) p. 147.
- Silver Lake, Oso Tp., Ont., limestones of Sharbot Lake band near head of, (73-74) p. 104.
 iron-ore deposits, stratigraphical position, locations of openings, quality of ore, (74-75) pp. 115-116.
 analysis of ore compared with Meyer Lake beds, (74-75) p. 116.
 iron-mines of, (76-77) p. 296.
- Silver Lake band, of crystalline-limestone, distribution of in Ontario, (73-74) p. 105.
 part of Group V., (74-75) p. 151.
- Silver Lake, Thunder Bay District, Ont., sandstones of, (66-69) E. p. 332, F. p. 367.
 native silver of, (66-69) E. p. 362, F. p. 400.
- Silver maple, note on distribution of in Canada, (79-80) p. 53 C.
- Silver-mine at Boulaçet Harbour, N.S., note on, (76-77) p. 407.
 of Elder Brook, North River of St. Anne, N.S., note on, (82-84) p. 14 H.
 of Smith's Brook, Barasois River, N. S., associated rocks, (82-84) p. 14 H.
- Silver Peak, Hope, B.C., silver at, (76-77) p. 147.
 character of rocks near silver-bearing vein (77-78) p. 160 B.
- Simard Tp., Saguenay River, Que., band of Trenton limestone north of, (82-84) p. 11D.
- Simcoe Co., Ont., sandy tract in, fresh-water deposit, (1863) p. 910.
for general geology see Part I, p. 15.
- Simcoe Lake, height of, (1863) p. 12.
 boulder formation on shores of, (1863) p. 895.
 thickness of Trenton Formation exposed on, (1863) p. 193.
- Similkameen River, B. C., gold on, (76-77) p. 143.
 lignite on, (76-77) p. 145.
 platinum and silver from, (76-77) pp. 147-148.
 description of lower part of valley below Vermilion Forks, (77-78) p. 51 B.
 older rocks exposed below Vermilion Forks, (77-78) pp. 83-87 B.
 white silt deposits represented in valley of, (77-78) p. 144 B.
 gold and platinum on, source of gold, character of gravel, (77-78) p. 156 B.
 description of fossil insects from, (77-78) pp. 176-185 B.
 description of *Equisetum Similkamense*, Dawson, from, (77-78) p. 187 B.
 general description of, (82-84) p. 6 B.
 description of rocks on, (82-84) pp. 17-19 B.
- Similkameen River, B.C.—*Cont.*
 slates of compared to Chilliwack beds, (82-84) p. 29 B.
 note on Tertiary rocks on, (82-84) p. 32 B.
 note on gold washings in 1861, (82-84) p. 37 B.
- Similkameen Valley, B.C., drift-deposits of, terraces in, elevations, (77-78) p. 147 B.
 note on terraces in, (82-84) p. 34 B.
- Simon Lake, Rouge River, Que., analysis of garnet from, (1863) p. 496.
- Simonds Parish, N.B., gravel-ridges in, (77-78) p. 14 EE.
- Simonette River, branch of Smoky River, Atha., note on size, (79-80) p. 56 B.
- SIMONIN, MR., quoted, hydraulic mining methods in California, (63-66) p. 68.
- Simpson Island, Lake Superior, copper-ores of, (1863) p. 707.
- Simpson Island, Passamaquoddy Bay, N.B., copper-ores reported on, (76-71) p. 89.
- Simpson Tp., Que., lower dark shales of Quebec Group, (1863) p. 239.
 copper-ore localities in, (63-66) p. 312.
- Sinclair and Haliburton's Culton area, Culton adit, Pictou, N.S., (66-69) E. p. 107, F. p. 120.
- Singleton mine, Port Arthur, Ont., disseminated native silver, (72-73) p. 110.
- Sin-kut Creek, B.C., character of surface of country near, (76-77) p. 52.
- Sinter Knoll, B.C., near Gatcho Lake, rocks of, (76-77) p. 80.
- Sinyakwateen Crossing to Kootanie River, Washington, U.S.A., rocks of, (82-84) p. 25 B.
- Sip-ki-aw rapid, Skeena River, B.C., note on, (79-80) p. 12 B.
 note on granite of, (79-80) p. 101 B.
- Sipiweske Lake, Nelson River, Keewatin, great dyke of dolerite, (77-78) p. 15 CC.
 two sets of glacial striæ on, (77-78) pp. 26-28 CC.
 list of observed glacial striæ on, (78-79) p. 40 C.
- Sisouette Bay, Isle Royal, Lake Superior, red sandstone and conglomerate resting on trap, (1863) p. 79.
- Sismondine, similar to chloritoid, analysis of, (1863) p. 498.
- Sitka, Alaska, latitude and comparative temperature observations, rainfall and winds, (79-80) p. 6 B.
- Six-foot coal-seam, Cape Dauphin, N.S., section of, (74-75) p. 256.
- Skaat Harbour, Burnaby Strait, Q. C. Is., B.C., note on, (78-79) p. 20 B.
- Skagit River, B.C., gold on, (76-77) p. 143.
 sources of river, course of, (77-78) pp. 46-47B.
 report of Messrs. Cambie and Trutch on upper waters of, (77-78) p. 47 B.
 plants in vicinity of, (77-78) p. 48 B.

Skagit River, B.C.—*Cont.*

the Cretaceous area of, composition, section, fossils, (77-78) pp. 105-107 B.
glaciation of rocks in valley of, (77-78) p. 139 B.
elevation of terraces on, (77-78) p. 148 B.
diagrammatic section on, (77-78) facing p. 174 B.
note on character of rocks in vicinity of International boundary, (82-84) pp. 12-14 B.
the Cretaceous rocks of, note on, (82-84) pp. 16-17 B.

Skead Creek, Fortune Lake, Ont., crystalline limestone on, (72-73) p. 146.

Skedans Bay, Louise Island, Q.C.Is., B.C., description of, poor harbour, (78-79) p. 27 B.

illustration showing position of strata on south point of, (78-79) p. 56 B.

Triassic limestones and argillites overlapped by Cretaceous, (78-79) p. 62 B.

Skedans Islands, Cumshewa Inlet, Q.C.Is., B.C., description of, (78-79) p. 27 B.

Skedans Village, Q.C.Is., illustrations of, (78-79) facing p. 146 B.

description of, (78-79) p. 169 B.

Skeena district, B.C., agricultural value of, (79-80) p. 16 B.

Skeena Forks, or Hazelton, B.C., situation and description of, (79-80) p. 16 B.
note on climate and agriculture at, (79-80) pp. 17-18 B.

sketch of Babine Range, as seen from, (79-80) p. 114 B.

Skeena River, B.C., topographical and physical description of, (79-80) pp. 9-17 B.

estuary first explored by Whidbey, 1793, (79-80) p. 10 B.

limit of steamboat navigation on, (79-80) p. 12 B.

mode of ascending, (79-80) p. 17 B.

climate of valley of, (79-80) pp. 17-20 B.

note on Indian population of, (79-80) p. 20 B.

on the rocks of, (79-80) pp. 100-103 B.

general relations of Mesozoic rocks of, (79-80) p. 103 B.

general note on coal-bearing rocks of, (79-80) pp. 104-105 B.

analysis of coal from Watsonkwa River, (79-80) p. 105 B.

valley terraces and detrital deposits in valley of, (79-80) p. 136 B.

analyses of coal from nine and from twenty miles above the Forks, (78-79) p. 12 H.

map of, scale 8 miles = 1 in. with diagrammatic section of county on Sheet I, (70-80) accompanying Part B.

Skeleton crystals, from Grenville, Que., (63-66) p. 189.

Sketches of harbours, Queen Charlotte Islands, B.C., scale 2 knots = 1 in., (78-79) p. 15 B.

Sketch, of Babine Range, Ne-tal-tzul Mountains, B.C., from the north and from Skeena Forks, (78-79) facing p. 114 B.

Sketch,—*Cont.*

in the Bad Lands south of Wood Mountain, Assa., showing effect caused by the combustion of lignites, (78-79) facing p. 32 A.
on Bow River, above Morley, Alta., looking west, (82-84) facing p. 30 C.

at Cape Wolstenholme, Hudson Bay, of coast near, (78-79) facing p. 21 C.

of Castle Peninsula and outlet of Richmond Gulf, Hudson Bay, (77-78) facing p. 14 C.

at Conglomerate Point, Cumshewa Inlet, Q.C.Is., B.C., of overlap of Cretaceous sandstones on Triassic argillites, (78-79) p. 81 B.

of East Main coast, Hudson Bay, from near Little Whale River, (77-78) facing p. 11 C.

of Grand Rapids, Athabasca River, looking up stream, (82-84) facing p. 10 C.
of north-east side of Hopewell Island, Hudson Bay, (77-78) p. 19 C.

of north coast of Hudson Strait, (78-79) facing p. 24 C.

of Inner and Outer Barns, Lake Nipigon, Ont., (77-78) facing p. 17 C.

showing outline of It-cha volcanic range, from Il-ga-chuz Mt., B.C., (76-77) facing p. 78.

of west point of King Georges Sound, Hudson Strait, (78-79) facing p. 24 C.

on Missinaibi River, Ont., of the great stone 'Conjuring House,' (77-78) facing p. 7 C.

at Point Wilkins, Lake Winnipegosis, Man., (74-75) p. 67.

of south point of Resolution Island, Hudson Strait, (78-79) facing p. 24 C.

of Striped Mountain, Similkameen River, B.C., showing outline of, (77-78) p. 84 B.

Sketch-sections along routes in southern British Columbia near International boundary, (82-84) facing p. 42 B.

of folded strata on Peace River between Otter Tail and Wicked rivers, (75-76) p. 77.

see also Sections, diagrammatic.

Sketch-survey of route from Quesnel by Stuart and McLeod Lakes to junction of Peace and Smoky Rivers by A. R. C. Selwyn accompanying (75-76).

of Saskatchewan River from Rocky Mt. House to Cumberland Lake, published in French copies, (73-74).

Skidegate, Q.C.Is., B.C., illustration showing houses, carved posts and canoes, (78-79) frontispiece to Part B.

potatoes introduced on island at, (78-79) p. 113 B.

Skidegate Channel, Q.C.Is., B.C., description of, (78-79) p. 31 B.

Triassic rocks of, Monotis argillites, (78-79) p. 62 B.

Skidegate Indian village, Q.C.Is., B.C., description of, (78-79) pp. 31, 165 B.

Skidegate Inlet, Q.C.Is., B.C., surveyed in part by D. Pender in 1866, (78-79) p. 13 B.

general description of, (78-79) p. 29 B.

geological map of, scale 1 mile = 1 in. (78-79) facing p. 63 B.

Skidegate, Inlet, Q. C. Is., B.C.—*Cont.*

Cretaceous rocks of, (78-79) pp. 63-77 B.
distribution of conglomerates in, (78-79)
pp. 65-66 B.
note on further exploration for coal, (78-79)
p. 76 B.
glaciation of, boulder-clay, (78-69) pp. 90-
91 B.
recent terrace in showing elevation of land,
(78-79) p. 95 B.

Skincuttle, Q.C.Is., B.C., visited by H. M. S.
Hecate in 1862, soundings taken from
there to Bonilla Island, (78-79) p. 13 B.

Skincuttle Inlet, Q.C.Is., B.C., plan of, scale
2 knots = 1 in., (78-79) p. 15 B.
analysis of copper-ore from Poole's shaft,
(78-79) p. 16 H.

general description of, (78-79) pp. 17-20 B.
rocks of southern part of South Island prob-
ably Carboniferous, (78-79) p. 46 B.
rocks of copper mine probably Carbon-
iferous, (78-79) p. 46 B.

description of Triassic rocks of, (78-79)
pp. 51-55 B.
fossil forms in limestone bands, (78-79)
p. 53 B.

description of magnetite deposit of Harriet
Harbour, (78-79) p. 54 B.

Skit-ei-get or Skidegate Village, Q.C.Is., de-
scription, (78-79) p. 165 B.

Skon-un Point, Graham Island, Q.C.Is., fossil-
iferous Tertiary sandstones and lignite,
(78-79) p. 86 B.

list of Tertiary fossils from, (78-79) p. 87 B.
latitude observation at, (78-79) p. 234 B.

Skye Mountain, Inverness Co., N.S., argillites
and felsites near referred to, (79-80)
p. 32 F.

copper-ore reported at, (79-80) p. 123 F.
pre-Cambrian rocks of, (82-84) p. 7 H.
conglomerates of, (82-84) pp. 42-43 H.
schists and limestones of pre-Cambrian
rocks of, (82-84) pp. 33-34 H.

Skye Glen, Inverness, N.S., section of Lower
Carboniferous limestone series, (82-84)
p. 49 H.

Skye River, Inverness, N.S., Lower Carboni-
ferous limestone series, section of, (82-84)
p. 49 H.

Skyunner Cove, Nachvak Inlet, Labrador, rocks
of, Huronian, (82-84) pp. 15-16 DD.

Slack or small coal, utilization of in Nova
Scotia, (72-73) p. 288.
percentage of at Caledonia mine, N.S.,
selling price, (72-73) p. 263.

Slack and Whitney's, soapstone mine, Brome,
Que., statistics for 1871, (71-72) p. 148.

Slags, nature of silicious impurities in, (66-69)
E. p. 282, F. p. 311.

Slate, in vicinity of Black River, Montmagny
Co., Que., (66-69) E. p. 137, F. p. 153.
of southern British Columbia gold-bearing,
character of, (77-78) p. 153 B.
at Calabogie Lake, Ont., great development
of, (76-77) p. 250.

Slate—*Cont.*

near Calabogie Lake. Ont., hornblende,
(76-77) p. 250.

of Cape Porcupine, Strait of Canso, N.S.,
(79-80) pp. 9-10 F.

of Eastern Townships, Que., for roofing
purposes, (63-66) p. 44.

at Echo Lake, Ont., silicious, (76-77) p. 210.
from Echo River, Ont., argillaceous, (76-77)
p. 210.

on French road, Cape Breton Co., N.S.,
spotted, (77-78) p. 13 F.

in Horton and Ross Tps., Ont., rust coloured,
(76-77) pp. 260, 262.

in Kaladar Tp., Ont., green, (76-77) p. 255.
from Kingsey quarries Que., analysis of,
(1863) p. 600.

in Levant Tp., Ont., horizon of, (76-77)
p. 253.

in Madoc Tp., Ont., (63-66) p. 94.

at Marmora, Ont., impregnated with sul-
phurets, (71-72) p. 131.

at Michipicoten Island, Lake Superior, con-
taining granitic pebbles, (63-66) p. 126.

rocks of Ontario and Quebec suitable for
roofing, localities, (1863) p. 830.

in Pictou coal-field, altered pre-Carbon-
iferous, (66-69) E. p. 57, F. p. 63.

at Rankin copper-mine, Root River, Ont.,
argillaceous, (76-77) p. 212.

in Stoke Mountain, Que., of Quebec Group,
(1863) p. 252.

of Tête à Gauche River, N.B., note on
value for roofing slates, (79-80) p. 47 D.

from Walton quarries, Melbourne Tp. Que.,
analysis of, (1863) p. 600.

Slate band, of York Co. N.B., south of granitic
area, (66-69) E. pp. 186-193, F. pp. 206-214.

non-calcareous, of Carleton and York Cos.,
N.B., (66-69) E. pp. 195-198, F. pp. 217-219.

calcareous, of Carleton and Victoria Cos.,
N.B., E. pp. 198-200, F. pp. 219-221.

of southern New Brunswick, character of
country underlain by, (70-71) p. 16.

south of the main granite area, in York Co.,
N.B., (70-71) pp. 244-245.

north-west of granite, in York and Carleton
Cos., N.B., character of, (70-71) p. 247.

Slate Chuck Brook, Skidegate Inlet, Q.C.Is.,
B.C., description of, (78-79) p. 30 B.
conglomerate band on, (78-79) p. 65 B.

Slate conglomerate, of Doré River, Lake
Superior, lithological characters, (63-66)
p. 127.

of Huronian, of Lake Temiscaming, Ont.,
(1863) pp. 50-51.

of Lady Dufferin Lake, Ont., (75-76) p. 300.

of Lake Superior, section at Doré River,
(1863) pp. 53-54.

on Oxford Lake, Keewatin, (77-78) p. 21 CC.
of Thessalon River, Ont., thickness and
characters, (1863) p. 56.

Slate Creek, B.C., Cassiar district, gold work-
ings on, (76-77) p. 140.

Slate diorite of Burnt Point, Lake Superior,
(76-77) p. 220.

- Slate formations of Charlotte Co., N.B., report by, G. F. Matthew, (76-77) pp. 321-350.
- Slate Island, Miramichi River, N.B., rocks in vicinity of, (66-69) E. p. 193, F. p. 214.
- Slate Islands, Lake Superior, Huronian rocks of, referred to, (1863) p. 63.
rocks of, resembling Quebec Group, roofing slates, (1863) p. 705.
slaty hematite found on, (70-71) p. 348.
- Slate location, Stobie's, north of Echo Lake, Ont., (76-77) p. 210.
- Slate mountain, Yellow Head Pass, rocks of, (71-72) p. 63.
- Slaty Creek, Cowgitz, Q.C.Is., B.C., quarry of Carbonaceous shales, (72-73) p. 61.
width of coal-bearing rocks on, (72-73) p. 62.
- Slaty greenstones of Lake Superior, (63-66) p. 125.
- Slaughter Camp, North Thompson River, B.C., exploring party at, (71-72) p. 34.
- Slavery, as practiced among Haida Indians of British Columbia, (78-79) p. 132 B.
- Slippery elm, range and northern limit of, in Canada, (79-80) p. 55 C.
- Sloats Lake, Loughborough Tp., Ont., basal beds of Trenton Group, conglomerate at base, (1863) p. 179.
Trenton Group resting on undened rocks at, (1863) p. 295.
- Sludianka, Russia, analysis of fluor-apatite from, (77-78) p. 11 H.
- Slush salt, made at Burlington Bay, Ont., from 1812 to 1815, (74-75) p. 287.
- SMALLWOOD, DR., table of temperatures observed by at Montreal, 1870, (70-71) pp. 304-305.
- Smart's mine, Sebastopol Tp., Ont., note on apatite deposit, zircon crystals, (82-84) p. 7 L.
- Smelting, of iron-ore at Marmora, Ont., cost of, (63-66) p. 108.
of iron-ores in Canada, list of blast-furnaces (73-74) pp. 246-259.
with peat, experiments in Montreal, (63-66) p. 291.
at Madoc, charge of flux, wood as fuel, expenses, (63-66) p. 110.
- SMITH, G. H., process of producing steel from ore by, (66-69) E. p. 291, F. p. 321.
- SMITH, J. B., list of coleoptera from Churchill, Hudson Bay, named by, (82-84) p. 62 DD.
- SMITH, J. LAWRENCE, analysis of pyrrhotite from Elizabethtown, Ont., by, (74-75) p. 306.
- SMITH, J. LIONEL, summary of work by, (74-75) p. 14.
observations on history and statistics of trade and manufacture of Canadian salt, (74-75) pp. 267-300.
summary of work done in 1874 in salt regions, (74-75) p. 267.
report on salt wells referred to, (76-77) p. 222.
- SMITH, S. I., list of crustacea from Q.C.Is., and Vancouver Is., B.C., (78-79) pp. 206-218 B.
list of crustacea by, from Port Burwell, Hudson Strait (82-84) pp. 57-58 DD.
- SMITH, W. R., donation of fossils from, (82-84) p. 19.
- Smith Brook, Barasois River, Victoria Co., N.S., syenite and felsite, silver-mine, (82-84) p. 14 H.
- Smith Brook, Forks Lake, Sydney River, N.S., note on hematite in veins in pre-Cambrian rocks, (82-84) p. 91 H.
- Smith Brook, St. Anne Harbour, N.S., rocks at mouth of, (75-76) p. 378.
gypsum deposit on, (75-76) p. 410.
- Smith Cove, St. Anne Bay, N.S., porphyry with metalliferous veins, (82-84) p. 14 H.
- Smith Falls, Ont., the Calciferous Formation exposed at, (1863) p. 118.
- Smith Island, off Port Hood, N.S., gypsum-bearing beds unconformably overlain by Coal Measures, (82-84) p. 47 H.
structure of, unconformity in Carboniferous, relation of beds, (82-84) p. 60 H.
- Smith Lake, New River, N.B., red granite, (coarse) and tawny granite, (fine) (70-71) p. 185.
- Smith's lime-kiln, Swanton Falls, Vt., displacement at, faults, (1863) p. 285.
section showing relation of Trenton and Potsdam Groups at, (1863) p. 855.
exposure of Potsdam Group at, (1863) p. 856.
diagrammatic section of rocks in, (1863) Atlas.
- Smith's mine, Tudor Tp., Ont., note on bismuth deposits at, (82-84) p. 9 L.
- Smith Tp., Peterborough Co., Ont., the Trenton escarpment at Burleigh Falls, (1863) p. 190.
- Smoke, from Pictou coals, practical trials, (66-69) E. pp. 425-431, F. pp. 474-481.
suggestions by E. Hartley on modifications in furnaces, (70-71) p. 3.
- Smokeless coal, comparison with bituminous coals of Nova Scotia, (66-69) E. p. 427, F. p. 476.
- Smoky Cape, Victoria Co., N.S., syenite of, (82-84) p. 16 H.
- Smoky River, Peace River, Atha., character of rocks in banks, drift boulders in beds, fall in river, (75-76) pp. 58-59.
rocks of, shales and sandstones, (75-76) p. 73.
analysis of sal-ammoniac and sulphur, from (75-76) p. 420.
analysis of lignite from, (79-80) pp. 9-10 H.
analysis of clay-ironstone from, (79-80) p. 16 H.
Indian names for, (79-80) p. 50 B.
view on, near trail-crossing, (79-80) facing p. 56 B.
from Simonette River to Little Smoky River, description of, (79-80) pp. 56-57 B.
to Sturgeon Lake, description of country, (79-80) p. 64 B.

- Smoky River, Peace River, Atha.—*Cont.*
 Lower Shales and Lower Sandstones, lignite in upper part of Lower Sandstones, (79-80) p. 118 B.
 fossils of Upper Shales (Pierre Group) obtained from, (79-80) p. 123 B.
 Upper Shales as exposed on, (79-80) p. 123 B.
 section of Upper Sandstones and Shales on, (79-80) p. 125 B.
 thickness of subdivisions of Cretaceous on, (79-80) p. 125 B.
 latitude determined by A. Webster, 1875, (79-80) p. 165 B.
 map of, on sheet II., (79-80) accompanying Part B.
 analysis of lignite from below Little Smoky River, (82-84) p. 23 M.
- Snake Brook, Loch Lomond, N.S., section of Laurentian rocks on, (76-77) p. 422.
- Snake Brook, N.B., to Burnt Hill Brook, Miramichi River, rocks on, (66-69) E. p. 192, F. p. 213.
- Snake Falls, near Sturgeon Lake, Ont., gneiss at, (72-73) p. 97.
- Snake Head Hills, eastern edge of Rocky Spring Plateau, Alta., (82-84) p. 42 C.
- Snake Islands, Lake Huron, the Trenton Group exposed on, fossils of Birdseye and Black River Formation noted at, (1863) p. 195.
 Birdseye and Black River Formation resting on undenuded rocks, (1863) p. 295.
- Snake Island, Lake St. John, Que., rocks of Hudson River Formation on, fossils found, (1863) p. 220.
- Snake Island, Lake Winnipegosis, Man., Devonian rocks and fossils of, description by H. Y. Hind, (73-74) pp. 52-53.
- Snake Valley, Alta., grazing land, character of grass, description of valley, (82-84) p. 28 C.
 rocks of, note on, (82-84) p. 80 C.
- Snider Mt., Kings Co., N.B., extension of Kingston Series to, (77-78) p. 11 D.
- Snider Mountain settlement, Kings Co., N.B., Lower Carboniferous of, (72-73) p. 194.
- Snow, great depth on Tsi-tsutl Range, B.C., (76-77) p. 33.
 causes of great fall near Coast Range, B.C., (76-77) p. 35.
 on the Skeena River, note on fall of, (79-80) p. 19 B.
 in southern Alberta, note on fall of, (82-84) p. 13 C.
- Snow Creek, B.C., situation of, gold-workings of, (76-77) p. 139.
- Snowdon Tp., Peterborough, Ont., uran-ochre with magnetite, (73-74) p. 205.
 analysis of magnetite from, (73-74) p. 211.
- Snow-shoe Creek, B.C., placers of, (76-77) p. 137.
- Snow-slides in Coquihalla Valley, B.C., (77-78) p. 41 B.
- Soap-clay, analysis of from Edmonton, Alta., (73-74) p. 64.
- Soapstone, uses of, localities of occurrence, references to analyses of, (1863) pp. 796-798.
 occurrence of on East Main coast, Hudson Bay, at Mosquito Bay, (77-78) p. 24 C.
 of Hamilton Formation, (63-66) p. 244.
 reported near Skynner Cove, Nachvak Inlet, Labrador, (82-84) p. 15 DD.
 statistics of production for Quebec for 1871, (71-72) p. 148.
see also Steatite.
- Social customs among Haida Indians, (78-79) pp. 129-137 B.
- Social organization of the Haida Indians, (78-79) pp. 115-121 B.
- Soda, in limestones in western Ontario, percentages in various rocks, (1863) p. 626.
 salts of, note on presence of in mineral-waters of Canada, (1863) p. 550.
- Soda Creek, B.C., cliff of volcanic rocks on, (71-72) p. 58.
 botanical notes on country near, (75-76) p. 126.
 geological observations of Lower Cache Creek Group exposed near, (75-76) p. 247.
 assay of black shale from, (75-76) p. 430.
 to Meldrum's, B.C., general description of country, (75-76) p. 235.
 to Quesnel, B.C., waggon-road, irrigation, navigation of Fraser River, (75-76) p. 126.
- Soda spring, Chambly, Que., analysis of water from, changes in, (63-66) p. 280.
- Sodalite with nepheline found in Brome Tp., Que., (1863) p. 480.
 from dykes, Montreal Mt., analysis of, (74-75) p. 303.
- Soft maple, distribution of in Canada, (79-80) p. 54 C.
- Soils, analyses of, mode adopted by T. S. Hunt, (1863) p. 637.
 table of, (1863) p. 640.
 character of dependent on underlying rock, note on, (80-82) p. 2 D.
 valley of Assiniboine River of west side from Shell River to Fort Pelly, (74-75) p. 29.
 of country east of Assiniboine River and between Big and Little Boggy Creeks, Man., (74-75) p. 32.
 from Bastard Tp., Ont., R. III., analysis of, (1863) p. 640.
 of Bay of Chaleurs, of vicinity of trap areas (80-82) p. 19 D.
 note on, (80-82) p. 20 D.
 of coast region of northern British Columbia, note on, (79-80) p. 4 B.
 of central plateau, British Columbia, (71-72) p. 67.
 of eastern part of Cape Breton Island, N.S., (74-75) p. 265.
 of country underlain by Cambro-Silurian rocks in York and Carleton Cos., N.S., (82-84) p. 12 G.
 overlying Carboniferous rocks, in York and Carleton Cos., N.B., (82-84) p. 6 G.
 from Chambly, Que., analysis of, (1863) p. 640.

Soils—*Cont.*

- overlying Coal Measures of New Brunswick, (72-73) p. 197.
- of Comox District, B.C., character of forests on, (71-72) p. 94.
- note on, (72-73) p. 63-64.
- of East Main coast, notes on gardens at Hudson's Bay Cos. posts, cattle, (77-78) pp. 24-25 C.
- of Elzevir and Grimsthorpe Tps., Hastings Co., Ont., (72-73) p. 140.
- barren stretch near Fort Ellice, Man., (74-75) p. 28.
- at Fort Pelly, Man., (74-75) p. 30.
- at Fort Pitt, Sask., (73-74) p. 35.
- of district surrounding Gods and Island Lakes, Keewatin, (78-79) pp. 32-33 C.
- of east coast of Graham Island, Q.C.Is., B.C., (78-79) p. 33 B.
- of Manitoulin Islands, Ont., (63-66) p. 167.
- of basin of Hudson Bay, note on, (79-80) p. 31 C
- of intervalles and terraces in valley of St. John River, N.B., (82-84) p. 43 GG.
- around Island Lake, Keewatin, vegetables grown, (78-79) p. 33 C.
- proportion of in James Bay basin, (75-76) pp. 339-340.
- of valley of Kenogami River, Ont., (70-71) p. 340.
- in Kent County, N.B., note on character of, (80-82) pp. 4, 20 D.
- near Lac la Biche, Alta., note on, (79-80) p. 97 B.
- in vicinity of Lakes Manitoba and Winnipegosis, Man., (74-75) p. 62.
- of the country west of Lake Superior, (66-69) E. p. 354, F. p. 392.
- of Magdalen Islands, Que., note on, (79-80) p. 10 G.
- overlying Middle Carboniferous in Kent Co., N.B., (80-82) p. 4 D.
- in vicinity of Missinaibi and Moose rivers, Ont., (77-78) pp. 7-8 C.
- from Montreal Island, Que., analysis of, (1863) p. 640.
- of Nelson River basin, Keewatin note on, (78-79) p. 3.
- of New Brunswick central part influence of underlying rock on, (82-84) pp. 42-43 GG.
- of south-eastern part, (70-71) p. 18.
- of country in slate band of southern part, (70-71) p. 16.
- overlying Coal Measures, (72-73) p. 197.
- of valley of Qu'Appelle or Calling River, Assa., (73-74) p. 72.
- from Raleigh Tp., Ont., analysis of, (1863) p. 640.
- of Richmond, Inverness and Guysborough Cos., N.S., note on, (79-80) p. 116 F.
- from Ste. Anne de la Pocatière, Que., analysis of, (1863) p. 640.
- from St. Charles Seigniory, Quebec, analysis of, (1863) p. 640.
- from St. Dominique, Que., analysis of, (1863) p. 640.
- from St. Hilaire, Que., analysis of, (1863) p. 640.

Soils—*Cont.*

- from St. Hyacinthe, Que., analysis of, (1863) p. 640.
- from St. Jean, Port Joli and St. Thomas Montmagny, analysis of, (1863) p. 640.
- of north shore St. Lawrence below Saguenay River, Que., (66-69) E. p. 309, F. p. 342.
- of country north of Saskatchewan River, near Jack Fish River, (73-74) p. 34.
- between Spence's Bridge and Kamloops, B.C., (71-72) p. 24.
- from Strathmore, Brantford, Ont., analysis of, (1863) p. 640.
- or country near Pas Mission, Saskatchewan River, Sask., (79-80) p. 10 C.
- of Peace River district, Atha., note on, (79-80) p. 66 B.
- of valley of Pic River and at Long Lake, Algoma, (70-71) p. 349.
- of country east of Porcupine Hills, Alta., (82-84) p. 28 C.
- of prairies of North-west Territories on trail from Carlton to Edmonton, (73-74) p. 59.
- of country from Lake Temiscaming to Lake Abitibi, (72-73) p. 133.
- resting on drift, southern part of Vancouver Island, B.C., (71-72) p. 94.
- in valley of Wabinoish River, Ont., (71-72) p. 106.
- Solar salt, conditions requisite for successful working, (66-69) E. p. 229, F. p. 255.
- conditions necessary for manufacture of, (74-75) p. 274.
- imports of by United States, (74-75) p. 273.
- manufacture of at Syracuse, N.Y., (66-69) E. pp. 227-239, F. pp. 251-264.
- manufacture of in United States, note on, (74-75) p. 275.
- method of manufacture in Portugal, (74-75) p. 273.
- uses of, (74-75) p. 273.
- Solaster Dawsoni*, Verrill, description of, from Q.C.Is., B.C., (78-79) p. 193 B.
- Solaster Stimpsoni*, Verrill, description of, from Q.C.Is., B.C., (78-79) p. 192 B.
- Soldier Cove, Richmond Co., N.S., diorite and felsite intrusion at, (77-78) p. 19 F.
- rocks similar to those on L'Ardoise road, (77-78) p. 18 F.
- Soldier Cove road Richmond Co., N.S., near Grand River, probable outcrop of Carboniferous rocks on, (79-80) p. 35 F.
- Solubility of phosphates in relation to value of as fertilizers, (1863) p. 760.
- Solubility of salt, earthy chlorides, (66-69) E. p. 250, F. p. 255.
- Sombra Tp., Lambton Co., Ont., record of well, (63-66) p. 244.
- Somer Creek, B.C., gold-workings on, (76-77) p. 140.
- Somerset Tp., Que., sandstone and conglomerate exposures with amygdaloid, (1863) p. 242.

- Somerset Tp., Que. — *Cont.*
copper-ore localities in, (63-66) p. 318.
diorite band containing copper-pyrites in, (1863) p. 719.
- Somerville Tp., Ont., to Nittany Valley, Penn., coloured section of rocks, (1863) Atlas.
- Sooke, B.C., trap and agglomerate, rocks of, (76-77) p. 92.
age of the gold-bearing rocks of, (76-77) p. 102.
copper-ore from near entrance to harbour, (76-77) p. 147.
Tertiary rocks of, (76-77) pp. 190-192.
map showing Tertiary rocks of, scale 8 m. = 1 in., accompanying, (76-77)
- Sooke Harbour, B.C., lignite locality at, (74-75) p. 83.
- Sooke River, B.C., rocks seen on, (76-77) p. 98.
note on gold found on, (76-77) p. 144.
- Sooke road, B.C., rocks seen on, (76-77) p. 99.
- Sooke rock-series, probable position in scale of formations, (77-78) p. 173 B.
- Sorby's researches on temperature of crystallization, referred to, (63-66) p. 192.
- Sorcerer Mt., Lake Chibogomaw, Que., Huronian schists near, (70-71) p. 293.
- Sorel, Que., development of Saxicava sands at, (1863) p. 925.
- Soulanges Co., Que., superficial geology of, (1863) p. 917.
- Soundings, in Darwin Sound, Q.C. Is., (78-79) p. 23 B.
in Houston Stewart Channel, B.C., (78-79) p. 16 B.
at mouth of Nelson River, Hudson Bay, (77-78) p. 10 CC.
for results of, *see* maps of various lakes and coasts.
- Source of mineral-waters, note on, (63-66) p. 277.
- Sources, of Bow River, note on, (82-84) p. 29 C.
of Mad River, B.C., note on, (71-72) p. 30.
- Souris, Man., tests in brick-making of indurated clay from, (80-82) pp. 2-3 H.
- Souris coal-field, Assa., probable extent of, (79-80) p. 4 A.
quantity of lignite per square mile in, (79-80) p. 7 A.
note by A. R. C. Selwyn relative to workable seams found in Dakota near, (82-84) p. 2.
- Souris River, Man. and Assa., shales and sandstones holding fossils of Cretaceous age, reported by H. Y. Hind, (73-74) p. 83.
eastern edge of Tertiary rocks on, (73-74) p. 84.
analysis of clay-ironstone from, (73-74) p. 241.
summary of examination previous to boring operations, (79-80) p. 2.
boring operations of 1880, report on, (79-80) pp. 1-11 A.
section of strata at mouth of Short Creek, (79-80) p. 5 A.
- Souris River. — *Cont.*
section of Lignite Tertiary at St. Peter Gully, and landslides near, (79-80) pp. 6-7 A.
to 108th meridian, the Lignite Tertiary Formation of by G. M. Dawson, (79-80) pp. 12-49 A.
Lignite Tertiary rocks, sections of, with diagrams, (79-80) p. 16 A.
sections of Lignite Tertiary near Roughbark Creek, and three miles southward, (79-80) pp. 19-21 A.
diagrammatic section showing coal-seam burned at outcrop, (79-80) facing p. 28 A.
analyses of lignites from, (79-80) pp. 43-44 A.
analysis of clay-ironstone from, (79-80) p. 48 A.
note on fossil plants from La Roche Percée, (79-80) pp. 51-55 A.
analysis of lignite ash from La Roche Percée, (79-80) pp. 6-7 H and (82-84) p. 11 M.
analyses of lignite from mouth of Short Creek, (79-80) p. 9 H.
revisited by A. R. C. Selwyn in 1882, (80-82) p. 18.
- Souris River bore-hole, Assa., analysis of lignite from, (79-80) pp. 8-9 H.
note on progress made, section of, (79-80) p. 8 A.
- Sour-gum, *Nyssa multiflora*, Wang., report of occurrence of in Ontario, (79-80) p. 55 C.
- South America, hydraulic methods in gold-mining, (63-66) p. 68.
- South Antler Creek, Assa., bore-hole near Souris River, record of, (79-80) pp. 9-10 A.
- South Aspy River, Aspy Bay, N.S., gneiss rocks of, (82-84) p. 19 H.
- South Bay, Lake Nipigon, trap rocks of the islands in, (66-69) E. p. 345, F. p. 381.
good land reported on, (66-69) E. p. 355, F. p. 393.
survey of during 1871, (71-72) p. 102.
- South Bay Creek, N.B., rocks exposed, (70-71) p. 43.
- South Bay mills, N.B., near St. John, rocks toward Vernon's Pond, (70-71) p. 42.
- South Branch of Milk River, Alta., Belly River beds of plateau north of, base of Pierre exposed near mouth of, (82-84) pp. 38-39 C.
- South Branch Nipisiguit River, N.B., pre-Cambrian rocks of, (79-80) p. 31 D.
granites on, (79-80) p. 33 D.
- South Branch Ste. Anne River, Que., hornblende-schists in metamorphic rocks of, (82-84) p. 19 F.
- South Branch of Similkameen River, B.C., note on gold-washing in 1861, (82-84) pp. 36-37 B.
see also South Fork, Similkameen River.
- South Burgess Tp., Ont., occurrence of apatite in noted, (1863) p. 460.
note on apatite deposits of, (1863) p. 761.
notes on phosphate of lime and mica of by G. Broome, (70-71) pp. 316-321.

- South Burgess Tp., Ont.—*Cont.*
localities in which apatite has been found, (70-71) p. 320.
occurrence of graphite on lot 10, R. I., noted, (82-84) p. 14 L.
- South Canonto Tp., Ont., mica-schist group of rocks in, (74-75) p. 129.
- South Crosby Tp., Ont., note on crystalline limestones of, (1863) p. 31.
passage-beds at top of Potsdam holding Orthoceratites and *Ophileta compacta*, Salter, wood-cut of *Orthoceras*, from, (1863) p. 102.
note on deposit of magnetite in, (1863) p. 674.
analysis of magnetic iron-ore from, (66-69) E. p. 257, F. p. 285.
magnetic iron-ore on Mud Lake, Rideau Canal, (66-69) E. p. 257, F. p. 284.
Chaffey iron-mine, extent of workings, value of ore, etc., (71-72) p. 121.
Yankee and Matthews mine, workings, ore mined, value of ore, (71-72) p. 122.
magnetic iron-ores, Chaffey and Yankee mine, (70-71) p. 312.
analysis of magnetite from Chaffey mine, (73-74) p. 211.
- South-east glacial drift, shown by limestones on White River, Algoma, (70-71) p. 349.
- South-eastern portion of Province of Quebec, notes on geology of by A. R. C. Selwyn, (80-82) pp. 1-7 A.
- South fault, Pictou coal-fields, N.S., (66-69) E. pp. 26, 73, F. pp. 29, 81.
- South Fork, Old Man River, Alta., general description of, (82-84) p. 23 C.
rocks of disturbed belt, coal-seams, shale band, (82-84) pp. 99-100 C.
note on coal-seams near Rocky Mountains, (82-84) pp. 109-110 C.
- South Fork, Similkameen River, B.C., description of, lignite on, (77-78) p. 50 B.
see also South Branch, Similkameen River.
- South Gower Tp., Ont., exposures of Calciferous in, (1863) p. 118.
- South Ham Tp., Que., reference to Gaspé Series in, (1863) pp. 429-431.
note on discovery of antimony in, (1863) p. 876.
deposit of native antimony in, (63-66) p. 44.
copper-ore localities in, (63-66) p. 317.
notes on antimony mine in, (80-82) pp. 3-5 GG.
bed of magnetite, locality of, (80-82) p. 3 GG.
- South Head, Cow Bay, N.S., occurrence of coal-seams at, (74-75) p. 205.
section of strata westward from, (74-75) pp. 209-210.
- South Head coal-seam, Cow Bay, N.S., section of, (74-75) p. 209.
- South Head colliery, Cow Bay, N.S., equipment, workings, coal raised, (75-76) p. 211.
- South Inniskillen settlement, pre-Carboniferous rocks of the dark argillite series, (70-71) p. 193.
- South Island, Skidegate Inlet, Q.C.Is., B.C., coal measures on, (72-73) p. 62.
outcrop of limestone, (Triassic) with fossils, (78-79) p. 62 B.
- South Joggins shore, N.S., survey and plan made by S. Barlow, referred to, (75-76) p. 343.
- South Kootenay Pass, Rocky Mountains, note on rocks of vicinity of, (82-84) pp. 28-29 B.
estimated thickness of rocks of, (82-84) p. 32 B.
absence of glacial markings or transported blocks in, (82-84) p. 35 B.
moraines east of, (82-84) p. 145 C.
terraces at eastern entrance, height of, (82-84) p. 146 C.
- South Lake, Antigonish Co., N.S., note on occurrence of olivine at, (77-78) p. 41 G.
- South Mountain, Salmon Branch, Cascapedia River, Que., metamorphic rocks on south side of, (82-84) p. 28 E.
note on serpentine and associated rocks of, (82-84) p. 32 E.
- South Nelson Tp., Ont., course of Medina and Clinton rocks in, (1863) p. 315.
- South Oromocto Lake, N.B., pre-Carboniferous rocks of the dark argillite series, (70-71) p. 192.
- South Oromocto River, N.B., upper series of pre-Carboniferous rocks, pale argillite series, (70-71) p. 198.
- South Petite Nation River, Ont., note on fall in, from source, (1863) p. 8.
exposures of Chazy Formation on, (1863) p. 130.
- South Peninsula of Ombabika, Nipigon Lake, Ont., sandstones of, (66-69) E. p. 344, F. p. 380.
the distribution of Trenton Group on, (1863) p. 170.
- South Point, Cowgitz, Q.C.Is., B.C., conglomerates of, (72-73) p. 63.
- South Saanich, B.C., fine farms on oak openings at, (71-72) p. 96.
- South Saskatchewan River, description of valley at crossing on Carlton trail, (73-74) p. 31.
traces of gold found at The Elbow, Assa., (73-74) p. 86.
coal-seams above Swift Current, Assa., horizon of, (82-82) pp. 13-14.
note on Indian cairn near junction of Bow and Belly rivers, (82-84) p. 20 C.
character of valley above Medicine Hat, Assa., (82-84) p. 26 C.
Belly River Series, exposed on east to Medicine Hat, Assa., (82-84) pp. 76-78 C.
thickness of upper part of Belly River Series on, (82-84) p. 116 C.
analyses of lignite from seams near Medicine Hat, colorific power of, (82-84) pp. 11-13 M.
- South Saugeen River, Ont., note on superficial deposits of valley, (1863) p. 900.

- South Sherbrooke Tp., Ont., magnetic iron-ore deposits of, character of ore, (1863) p. 674.
 iron-ores of, (70-71) p. 313.
 iron-ore horizon, above limestone bands in, (72-73) p. 161.
 at base of fifth limestone band, (72-73) p. 161.
 iron-ore deposits "in" south, of Meyer Lake, (74-75) p. 118.
 width of limestone band in, (74-75) p. 140.
 tremolitic dolomite in, (74-75) p. 147.
 limestone band in, at top of Group IV., (74-75) p. 150.
 garnetiferous hornblende-slate, of Group IV. in, (74-75) p. 150.
 section of gneiss and limestone series in, (74-75) p. 154.
 iron-ore horizons in, (76-77) p. 296.
- South Similkameen River, B.C., Tertiary rocks of, (77-78) p. 130 B.
 rocks of vicinity of International Boundary on, (82-84) p. 14 B.
- South Stream, Barnesville, N.B., rocks exposed on, felsite breccias, (77-78) p. 7 DD.
- South syncline and Bear Creek syncline, probably the same, (66-69) E. p. 75, F. p. 83.
- South Thompson River, B.C., gold on, (76-77) p. 142.
 general description of, and of valley, (77-78) pp. 20-21 B.
 survey of, by Mr. Green, referred, to depth of water, (77-78) p. 24 B.
 extensive limestone exposures, age of, (77-78) pp. 80-81 B.
 rocks of lower part, Nicola Series and Cache Creek Group, (77-78) pp. 80-81 B.
 granite and gneiss areas below Shuswap Lake, (77-78) p. 81 B.
 local glaciation in valley of, (77-78) p. 138 B.
 white-silt formation in valley of, (77-78) p. 143 B.
 building stone of, (77-78) p. 165 B.
- South-west Brook, Bridgeport Basin, N.S., Martin coal-seam, (74-75) p. 190.
- South-west Mabou River, Inverness Co., N.S., syenite rocks on, (79-80) p. 14 F.
 syenite rocks of, referred to, (79-80) p. 30 F.
 exposures of Carboniferous rocks at, (79-80) p. 105 F.
 grits, etc., of Lower Carboniferous on, (82-84) p. 39 H.
 Lower Carboniferous limestone rocks of vicinity, (82-84) pp. 47-48 H.
- South-west Margaree River, N.S., galena reported in Carboniferous rocks of, (80-82) p. 8.
 Lower Carboniferous rocks of, (82-84) pp. 40-41 H.
 sandstones and conglomerates of, (82-84) p. 45 H.
 galena in vicinity of, (82-84) p. 93 H.
- South-west Miramichi River, N.B., Carboniferous rocks on, near Boiestown, (66-69) E. p. 186, F. p. 206.
- South-west Miramichi River, N.B.—*Cont.*
 pre-Cambrian gneisses of, (79-80) p. 32 D.
 granite belts on, (79-80) p. 34 D.
 note on outcrops of coal on, (79-80) p. 46 D.
 stratigraphical position of coal-seams at, (80-82) p. 6 D.
- South-west Point, Anticosti, Que., section of rocks along coast from Jupiter River, (1863) pp. 302-303.
 section of higher part of Anticosti Group at, (1863) p. 304.
- Southampton, Ont., record of boring for salt, (66-69) E. p. 213, R. p. 235.
- Southampton Parish, N. B., Cambro-Silurian rocks of, (82-84) pp. 19-20 G.
- Southampton Island, Hudson Bay, general character of south shore of, horizontal limestone, (82-84) p. 34 DD.
- Southern Alberta, notes on coal-seams of, (80-82) pp. 8-20 B.
 general description of country, (82-84) pp. 13-35 C.
 note on post-glacial denudation, (82-84) p. 149 C.
 note on uplift of southern part, means of ascertaining relative change of level, (82-84) p. 151 C.
- Southern British Columbia, geology of, Palæozoic and Triassic rocks, (77-78) pp. 63-105 B.
 newer Mesozoic rocks of, (77-78) pp. 105-133 B.
 glacial geology and superficial deposits of, (77-78) pp. 133-166 B.
 list of fossils, Tertiary plants from, (77-78) p. 186 B.
 diagrammatic sections in, (77-78) facing p. 174 B.
see also Southern Interior, British Columbia Part I., p. 18.
- Southern New Brunswick, work of L. W. Bailey and G. F. Matthew in 1870, (70-71) p. 2.
 report on geology of, by Bailey & Matthew, (70-71) pp. 15-240.
 topographical features of, (70-71) pp. 15-18.
 prominent ridges in maritime tract, (70-71) p. 17.
 1st report on, by Dr. A. Gesner, referred to, (70-71) p. 18.
 geological features as given in previous writings, (70-71) pp. 18-28.
 rocks of, as described by A. Gesner, (70-71) p. 19.
 explorations in 1865 by Bailey, Matthew & Hartt, (70-71) p. 25.
 Lower Silurian of, (70-71) pp. 134-158.
 faults and dislocations in rocks of, (70-71) pp. 178-180.
 general attitude of strata of Palæozoic rocks, (70-71) p. 178.
 cleavage planes of strata of Palæozoic and older rocks in, (70-71) p. 179.
 intrusive granites of, relation to surrounding groups, age of, (70-71) pp. 180-182.
 the Lower Carboniferous in, (70-71) pp. 205-213.

Southern New Brunswick—*Cont.*

- metallic ores of, (70-71) pp. 222-229.
 coal, peat and bituminous shales of, (70-71) pp. 229-231.
 material for lime and plaster, (70-71) p. 231-233.
 sandstone for grindstones and building stones in, (70-71) pp. 233-237.
 mineral species found in, (70-71) pp. 237-240.
 southern belt of metamorphic rocks in New Brunswick first and second anticline, (77-78) pp. 4-9 D.
 distribution and character, exposures, (77-78) pp. 10-17 DD.
 Upper Silurian and Kingston Group in, (77-78) pp. 1-6 E.
 superficial geology of, by G. F. Matthew, (77-78) pp. 1-36 EE.
 gravel ridges and kames of, (77-78) pp. 13-15 EE.
 resumé of geology of, with additional facts to 1879, by Bailey, Matthews and Ells, with three Map-sheets, (78-79) pp. 1-26 D.
 notes on economic minerals of, progress in mining, (78-79) pp. 23-26 D.
for geology of various Counties, see Part I., pp. 6-7.

Spadina, Ont., character of mineral-water of spring, (1863) p. 542.

Spallumshen (Mara) Arm, Shuswap Lake, B.C., remarkable spring on, called Pil-pil-poopil, (77-78) p. 25 B.
 gneissic rocks of, (77-78) p. 97 B.

Spallumshen Valley, B.C., general direction, length of, (77-78) p. 57 B.
 general description of, soil of arable area, (77-78) pp. 60-61 B.
 silt deposits resembling white-silts, (77-78) p. 143 B.

Spanish River, Ont., occurrence of copper-ore noted at mouth of, (1863) p. 60.
 breadth of Huronian on, (1863) p. 61.
 granitic gneiss bounding Huronian of, resembling intrusive granite, (1863) p. 61.
 notes on copper-ores of Huronian Series of, (1863) p. 696.
 note on clay and sands of, Algoma sands, (1863) pp. 906-907.
 assay of copper-pyrites from, for silver, (79-80) p. 19 H.

Spar Cove, St. John River, N.B., distribution of Laurentian on west side, (70-71) p. 36.

Spar Island, Lake Superior, note on mineral veins of, (1863) p. 707.
 analysis of copper-ore from, (78-79) p. 16 H.
 assay of copper-glance from, for gold and silver, (78-79) p. 19 H.

Spathic iron-ores, in Nerepis Valley, N.B., and on Grand Manan Island, (70-71) p. 223.
 age of, notes on localities on Sutherlands River, N.S., (73-74) pp. 237-238.
 analysis of, from Indian Point, N.S., (76-77) p. 476.
 analysis of, from Sutherlands River, Pictou, N.S., (73-74) p. 239.

Spathic iron-ores—*Cont.*

of Boulardrie Island, N.S., (76-77) p. 450.
 from Flint Island, Hudson Bay, analysis of, (77-78) p. 47 G.
 occurring near gypsum deposits of Nova Scotia, reference to, (73-74) p. 238.
 from Polson's Lake, N.S., composition of, (76-77) p. 476.
 of Pictou Co., N.S., description and analysis, (66-69) E. pp. 441-442, F. pp. 493-494.
 Speaking doll made by Haida Indians, B.C., (78-79) p. 140 B.

Spears used by Haida Indians, B.C., (78-79) p. 144 B.

Specific gravities, of albertite and coals, table of, (76-77) p. 397.
 of apatite, from Grant mine, Buckingham, Que., (77-78) p. 14 G.
 method of determining, for coals and lignites, (82-84) p. 2 M.
 of Goderich salt, (76-77) p. 235.
 of iron-sands, from Moisie, Bersimis and Mingan, Que., (66-69) E. p. 265, F. p. 293.
 of zircon from Bishops pit, Templeton, Que., (77-78) p. 29 G.

Spectacle Lake, N. Crosby, Ont., belt of iron-bearing rock, (70-71) p. 313.

character of iron-ore found at, (74-75) p. 117.

Specular iron-ore from Albert Co., N.B., assay of for gold and silver, (82-84) p. 5 MM.
 from Cooks Brook, Londonderry N.S., analysis of, (73-74) p. 224.
 near Gros Cap, Lake Superior, (76-77) p. 220.

of Indian reserve, Richmond Co., N.S., near Robinson Cove, (82-84) pp. 91-92 H.
 of Londonderry, N.S., (72-73) p. 23 and (73-74) p. 224.
 on Montreal River Ont., east branch, in quartz veins, (75-76) p. 301.
 of North Hastings, Ont., (63-66) pp. 100-103.
 magnetic, in Nova Scotia, (73-74) p. 206.
 of Pictou Co., N.S., analysis of samples, (66-69) E. p. 439, F. p. 491 and (73-74) p. 225.

age of rocks containing, (66-69) E. p. 439, F. p. 490.
 character of deposits, (66-69) E. p. 439, F. p. 491.
 gozzan from deposits, analysis of, (66-69) E. p. 440, F. p. 492.
 from area 47, Pictou Co., N.S., results of assay, (73-74) p. 225.

Specular schists, references to occurrences of in Leeds Tp., Que., (1883) p. 510.
 in Quebec Group near St. Francis River, Que., (1863) p. 245.
 reference to description of, note on deposits in St. Armand, Sutton, Brome Tps., Que., (1863) pp. 678-680.
 of Sutton and Brome, Que., examination of (1863) p. 615.
 from Sutton Tp., Que., analysis of, (1863) p. 679.

Speed River, Ont., exposures of Guelph Formation on, (1863) p. 337.

- Speke Point, Lake Nipigon, Ont., Huronian rocks, north and south of, (66-69) E. p. 342, F. p. 378.
- SPENCER, J. R., list of coleoptera collected by at Churchill, (82-84) p. 62 DD.
- SPENCER, J. W., number of fossils collected by in Manitoba, (74-75) p. 11.
- report on country between the Upper Assiniboine River and Lakes Winnipegosis and Manitoba, Man., (74-75) pp. 57-70.
- assay of lignite from Sanders River, Man., (74-75) p. 69.
- analysis of brine from south end of Lake Winnipegosis, Man., (74-75) p. 70.
- Spencer coal-seams, Cow Bay, N.S., sections of, (74-75) p. 208.
- Spencer's mills, Petite Nation River, Ont., Calciferous Formation at, (1863) p. 118.
- Spencers ravine, near Dundas, Ont., ridges of gravel and sand, beach deposits, (1863) p. 914.
- Spencerville, Ont., vein of calcite at, (63-66) p. 186.
- Spence's Bridge, B.C., road from Lytton to, description of, (71-72) p. 23.
- change in character of country at, (71-72) p. 23.
- width of Thompson River at, (71-72) p. 24.
- Lower Cache Creek Series exposed above, (71-72) p. 61.
- assay of copper-ore from, (75-76) p. 5.
- note on grazing and farming near, plants observed at, (75-76) pp. 122-123.
- evidence of former barrier in valley at, (75-76) p. 122.
- table of mean temperatures at, (77-78) p. 6 B.
- Sperenberg, Germany, deepest well bored, (74-75) p. 4.
- Sphærezochus parvus*, Billings, wood-cut of, (1863) p. 133.
- Sphalerite or zinc-blende, note on occurrence in apatite-bearing rocks, (77-78) p. 36 G.
- from mouth of White Sand River, Lake Superior, zinc contained in, (80-82) p. 15 H.
- Sphene, mode of occurrence of, (63-66) p. 214.
- note on occurrences of in Eastern Townships, Que., (1863) p. 502.
- from Grenville, Que., analysis of, (77-78) p. 28 G.
- of apatite-bearing rocks of Ottawa Co., Que., (77-78) p. 27 G.
- Spherical concretions, in sandstone at Grand Rapids, Athabasca River, with illustrations, (82-84) pp. 10-11 CC.
- Spilites of the Alps, now regarded as indigenous rocks, (1863) p. 651.
- Spinel, mode of occurrence of, (63-66) p. 213.
- found in Burgess and Ross Tps., Ont., also near Daillebout, Que., (1863) p. 499.
- Spioos Creek, Nicola River, B.C., description of trail in upper part, (77-78) p. 36 B.
- crystalline rocks on head-waters of, (77-78) p. 73 B.
- Spioos Creek, Nicola River, B.C.—*Cont.*
- character of boulder-clay of, (77-78) p. 141 B.
- diagramatic section from Boston Bar to, (77-78) facing p. 174 B.
- Spirifera*, Sp., notes on specimens from Fossil Point, Peace River, B.C., (75-76) pp. 100-101.
- notes on, from Rapide Bouillé, Peace River, B.C., (75-76) p. 104.
- Spirifera arenosa*, Conrad, wood-cut of, (1863) p. 960.
- Spirifera arrecta*, Hall, wood-cut of, (1863) p. 960.
- Spirifera cycloptera*, Hall, wood-cut of, (1863) p. 957.
- Spirifera juodenaria*, Hall, wood-cuts of, (1863) p. 372.
- Spirifera fimbriata*, Conrad, wood-cuts of, (1863) p. 372.
- Spirifera gregaria*, Hall, wood-cuts of, (1863) p. 372.
- Spirifera macropleura*, Conrad, wood-cut of, (1863) p. 957.
- Spirifera mucronata*, Conrad, wood-cuts of varieties of, (1863) p. 386.
- Spirifera Niagarensis*, Conrad, wood-cut of, (1863) p. 317.
- Spirifera Parryana*, wood-cuts of, (1863) p. 386.
- Spirifera perlamellosa*, wood-cut showing dorsal view, (1863) p. 957.
- Spirifera radiata*, Sowerby, wood-cuts of, (1863) p. 317.
- Spirifera raricosta*, Conrad, wood-cuts of, (1863) p. 372.
- Spirifera sculptilis*, Hall, wood-cuts of, (1863) p. 386.
- Spirifera varicosa*, Hall, wood-cut of, (1863) p. 960.
- Spirigera concentrica*, Von Buch, wood-cut of, (1863) pp. 373, 385.
- Spirorbis arietina*, Dawson, description and figure, (66-69) E. p. 14, F. p. 15.
- Spirorbis omphalodes*, Goldfuss, notes on specimens of from Clearwater River, Atha., (75-76) p. 106.
- Spit Point, Skidegate Inlet, Q.C. Is., B.C., Tertiary beds probably underlie part of, (78-79) p. 85 B.
- Split Lake, Nelson River, Keewatin, description of rocks, of, elevation of, note on character of surrounding country, (78-79) pp. 13-14 C.
- dykes in Laurentian of, (78-79) p. 13 C.
- to Assean Lake, description of route, (78-79) p. 14 C.
- Huronian of island near narrows, referred to, (78-79) p. 27 C.
- Split Rock of Percé, Que., height and general description of, (1863) p. 438.
- Split Rock plumbago mine, St. John, N.B., note on, (70-71) p. 231.

- Split Rock plumbago mine, St. John, N.B.—*Cont.*
statistics of output for 1869, (71-72) p. 151.
workings of, analysis of graphite from,
practical trials of, (78-79) pp. 3-4 H.
- Spodumene, observed in loose mass of granite
near Perth, Ont., (1863) p. 481.
- Spokane River, Washington, U.S.A., descrip-
tion of valley, basalts, gneiss, (82-84)
pp. 24-25 B.
comparison of gneiss with Laurentian
rocks, (82-84) p. 31 B.
note on Tertiary rocks of, (82-84) p. 33 B.
- Sporting Mountains, Richmond Co., N.S., de-
scription of felsites, pre-Cambrian, (79-80)
pp. 6-9 F.
fire-clay of referred to, (79-80) p. 125 F.
- Spragg Brook, Kings Co., N.B., description of
rocks of, (70-71) pp. 76-77.
- Spraggs Cove, Grand Manan Island, N.B., rocks
supposed to be of Kingston and Coastal
Groups, (70-71) p. 103.
trap dykes at resembling Triassic, (70-71)
p. 221.
- Spring, on Spalumsheen Arm, Shuswap Lake,
B.C., description of, (77-78) p. 25 B.
of Deadman Point, N.S., chalybeate, (76-77)
p. 442.
- Springs, remains indicating ancient, in Calcif-
erous Formation, (1863) p. 121.
in southern Cape Breton Island, N.S., note
on, (79-80) p. 113 F.
in Derby Tp., Ont., at base of Niagara
escarpment, (1863) p. 334.
see also Mineral springs.
- Spring Creek, B.C., gold workings on, (76-77)
p. 140.
- Springfield, Queensbury Parish, N.B., rocks of,
(82-84) p. 21 G.
upper series pre-Carboniferous, pale argillite
series, (70-71) p. 199.
- Springhill, Kings Co., N.B., Laurentian belt of
rocks at, (70-71) p. 33.
- Springhill, York Co., N.B., cliffs of gray grits
at, (66-69) E. p. 181, F. p. 200.
rocks in vicinity of, (66-69) E. p. 195,
F. p. 216.
- Springhill, N.S., borings on coal-seams at, by S.
Barlow, (73-74) p. 148.
coal-seams proved in trial pits north from
Black seam, sections of, (73-74) pp. 150-
152.
analysis of alunogen from Scotia mine,
(78-79) p. 8 H.
- Springhill coal of Nova Scotia, comparison with
Newcastle coal, (66-69) E. p. 445, F. p. 497.
comparisons of analyses with Newcastle
coal, (66-69) E. p. 446, F. p. 498.
from main or Black seam, analysis of,
(66-69) E. p. 444, F. p. 497.
- Springhill coal-field, N.S., notes on coals of, by
E. Hartley, (66-69) E. pp. 443-447,
F. pp. 495-500.
connections by I.C. Ry., with Acadia iron-
works, (66-69) E. p. 447, F. p. 499.
- Springhill coal-field, N.S.—*Cont.*
situation and thickness of seams, (66-69)
E. p. 447, F. p. 499.
work done in 1870 by Barlow and Hartley
in, (70-71) pp. 2, 6.
seams in Black area as pointed out by
Anderson, (70-71) p. 6.
progress of survey of during 1871, (71-72)
p. 12.
report on by S. Barlow, (73-74) pp. 147-160.
coal-seam proved in pit near railway, (73-74)
pp. 152-155.
bore-holes put down by Barlow and Ander-
son, (73-74) p. 155.
outcrops west of Springfield Mining Co's
west slope, (73-74) pp. 155-159.
note on explorations and work done on
south side, (73-74) p. 159.
northern outcrop, note on, (73-74) p. 160.
map in course of preparation, published in
Walker and Miles' atlas, (74-75) p. 6.
visited by A. R. C. Selwyn, limits of Coal
Measures outlined, (74-75) p. 8.
surveys made in 1875, sections of seams in
pits, (75-76) pp. 341-345.
index map showing position of, (73-74) facing
p. 160.
- Springhill Coal Measures, N.S., sectional dia-
gram of, (73-74) p. 154.
- Springhill colliery, N.S., slopes, machinery,
ventilation, etc., (73-74) p. 160.
- Springhill Mining Co's west slope, Springhill,
N.S., sections north of, (73-74) p. 157.
east slope, sections in, (73-74) pp. 158-159.
west slope, outcrops west of, (73-74)
pp. 155-159.
- Springhill and Parrsboro' Mining and Ry. Co.,
N.S., progress of works, (73-74) p. 155.
- Springville, N.S., iron-ore deposits of, analysis
of limonite from near, (66-69) E. pp. 439-
440, F. pp. 491-492.
openings near, on vein of limonite, (73-74)
p. 230.
- Spruce, note on northern range of white and
black varieties, east of Rocky Mountains,
(79-80) p. 44 C.
note on northern limit of in Labrador
and Ungava, (82-84) p. 17 DD.
- Spruce Brook, N.S., pre-Carboniferous rocks of,
(76-77) p. 415.
Silurian rocks of, (76-77) p. 435.
copper-ore of, (76-77) pp. 441, 450.
succession of Carboniferous rocks in, (76-77)
p. 445.
- Spruce Islands, Western Islands, N.B., con-
glomerates of, (70-71) p. 90.
- Spruce Lake, St. John Co., N.B., Laurentian
rocks of, (70-71) p. 43.
section south to shore of Mill Creek, (70-71)
p. 45.
conglomerates and sandstones of, (70-71)
p. 97.
red conglomerates of, probably Bloomsbury
conglomerate, (70-71) pp. 175-176.

- Spruce Peaks, near Mapleton, N.B., felspathic rocks of, (82-84) p. 20 G.
- Spy Hill, Qu' Appelle River, Assa., drift-deposits of vicinity of, (73-74) p. 26.
- Square Plain, Swan River, Man., description of, (74-75) p. 33.
- Squaw Island, Georgian Bay, rocks of Trenton Group, (1863) p. 194.
- Squirrel portage, on Carr River, head of English River, Ont., (72-73) p. 99.
- Staff of Survey, changes in during 1875, (75-76) pp. 6-7.
changes in for 1883, (82-84) p. 23.
- Staffel, Nassau, Germany, analysis of fluor-apatite from, (77-78) p. 11 H.
- Stalactites, in cave in Mono Tp., Ont., (1863) p. 334.
- Stamp-mills, work of in Nova Scotia, compared with Australia and California, (70-71) p. 280.
- Stanbridge, Que., note on bog iron-ore deposits in, (1863) p. 683.
conglomerates of compared with Lévis conglomerates, fossils common to both, (1863) p. 860.
- Stanbridge and Bayer anticline, outline of direction of axis, (1863) p. 238.
- Stanbridge conglomerates, exposures of and notes on distribution of, (1863) pp. 852-853.
above Red Sand-rock of Vermont, inferred from Newfoundland section, (1863) p. 879.
- Stanbridge Tp., Que., outcrop of Div. A, Phillipsburgh Series in, (1863) p. 847.
outcrops of Div. B, Phillipsburgh Series in, (1863) p. 848.
distribution of limestone-conglomerates in, (1863) pp. 852-853.
map of part of, extending south to Lake Champlain, (1863) Atlas.
- Standing Rock Rapid, Grass River, Keewatin, description and illustration of great dyke at, (78-79) p. 28 C.
- Standon Tp., Que., band of red and green sandstones in, (1863) p. 254.
copper-bearing rocks extend through, (1863) p. 731.
- STANFORD, E., map of Eastern Townships, Que., engraved by, (63-66) p. 6.
- Stanstead, Que., note on intrusive granites of vicinity, diagram showing veins in Devonian limestones, (1863) p. 434.
analysis of agalmatolite from, (1863) p. 485.
note on earthy hydrated peroxide of manganese from, (1863) p. 507.
deposit of marl in, (1863) p. 766.
granites of, considered as building stones, note on, (1863) p. 910.
- Stanstead Co., Que.:—
for general geology see *Part I.*, p. 11.
- Stanstead Plain, Que., note on large granite dyke at, (1863) p. 435.
- Stanstead Tp., Que., localities in for occurrence of bog manganese-ore, (1863) p. 752.
talcose slate from used as paint, (1863) p. 767.
rocks in, suited to making whetstones, note on, (1863) p. 809.
note on contact of Silurian and granite in, (80-82) p. 5 A.
- Stanton's house, South Inniskillen settlement, N.B., fossils of pre-Carboniferous rocks of the dark argillite series at, (70-71) p. 193.
- Star Hill mine, Portland West, Ottawa Co., Que., note on apatite deposits at, (82-84) pp. 10-11 J.
- Star Mission, Green Lake trail, Sask., grain and vegetables grown at, character of soil, (75-76) p. 183.
- Star Point, Guysborough Harbour, N.S., unconformity between Devonian and Carboniferous at, (79-80) p. 46 F.
Carboniferous rocks of, (79-80) p. 59 F.
- Statistics, of apatite shipments, from Montreal and Quebec for 1882-83, (82-84) p. 20 J.
of coal, for Nova Scotia, 1869-71, (71-72) p. 149.
note on collection of, (72-73) p. 289.
relative to collieries in operation in Cape Breton Co., N.S., 1872, (72-73) p. 290.
for copper and nickel, Newfoundland, 1869-71, (71-72) p. 153.
of gold and coal in British Columbia, 1869-71, (71-72) p. 152.
of gold, yield of British Columbia to date of report, (76-77) p. 105.
yield of from Cassiar, B.C., (76-77) p. 117.
from Fraser River, B.C., (76-77) p. 118.
from Lightning Creek, B.C., (76-77) p. 112.
for Nova Scotia for 1869-71, (71-72) p. 150.
of mines of New Brunswick, 1869-71, (71-72) p. 151.
of mines of Ontario for 1869-71, (71-72) p. 147.
of mines of Quebec for 1869-71, (71-72) p. 148.
of Nanaimo coal-shipments, (76-77) p. 179.
of salt productions in Canada, 1873, (76-77) p. 223.
of trade and manufacture of Canadian salt by J. Lionel Smith, (74-75) pp. 290-300.
- Staurolite, note on occurrences of in Canada, (1863) p. 498.
in rocks of Dennis Stream, N.B., (70-71) p. 56.
crystals of, at Moore Lake, Charlotte Co., N.B., (70-71) p. 240, and (76-77) p. 329.
- Steadman ledge, Richfield, B.C., assay of quartz from, (76-77) p. 477.
- Steam, exhaust, used in evaporating brine, at Seaforth, Ont., (74-75) pp. 276-277.
- Steam colliers, economy of in coal trade of N.S., (70-71) p. 4.

- Steam drills, note on economy of, (82-84) p. 6 J.
- Steamboat on Athabasca River and Lake, burnt at Fort McMurray, (75-76) p. 171.
- Steamer 'City of Quebec,' trial of Drummond coal of Pictou, N.S., on, (66-69) E. p. 423, F. p. 471.
- Steamer 'Gaspé,' trial of Drummond coal of Pictou, N.S., on, (66-69) E. p. 423, F. p. 471.
- Steamer 'Secret,' Quebec Steamship Co. trials of Drummond coal of Pictou, N.S., on, (66-69) E. p. 422, F. p. 470.
- Steatite, uses of, localities of occurrence, reference to analyses, (1863) pp. 796-798.
- occurrence of at Eagle Head, N.S., (77-78) p. 30 F.
- occurrence of at Elizabethtown, Ont., (74-75) p. 305.
- from Elzevir Tp., Ont., and Pottou Tp., Que., analyses of, (1863) pp. 469-470.
- occurrence on Lac des Quinze and Opsatika Lake, Ottawa River, (72-73) p. 132.
- of apatite deposits, Ottawa Co., Que., characters of, (77-78) p. 33 G.
- on Ste. Anne River, Que., note on occurrence of, (82-84) p. 20 F.
- see also Soapstone.
- Steatitic rock, massive, below Lac des Quinze, Ottawa River, (72-73) p. 117.
- Steatitic schist, of Pipestone Bay, Island Lake, Keewatin, (78-79) p. 37 C.
- Steel, note on manufacture of at Quebec, (73-74) p. 256.
- cast, various methods of making, (66-69) E. pp. 293-298, F. pp. 324-330.
- Steel Co. of Canada, list of directors, properties acquired by, (73-74) p. 259.
- Steel River, boat-route to York Factory, character of, marine shells in drift of, (77-78) pp. 7-8 CC.
- Stellite, occurrence of, at Split Cape, N.S., (82-84) p. 28 L.
- Steep Creek, Assiniboine River, Man., gneiss boulders on plain south of, (74-75) p. 29.
- Steep Creek, Strait of Canso, N.S., note on Devonian rocks of vicinity, (79-80) p. 42 F.
- outlier of Carboniferous rocks at, (79-80) p. 61 F.
- Steep Point, Skidegate Inlet, Q.C. Is., B.C., sandstones of, thickness, (78-79) p. 69 B.
- Steep Rock Point, Lake Manitoba, Man., cliffs of Devonian limestone at, (74-75) p. 37.
- Steering Island, west coast Newfoundland, limestone conglomerate of, (1863) p. 292.
- STEINER, Mr., analysis of brine by quoted, (63-66) p. 267.
- Stella village, Fraser Lake, B.C., trail to Babine Lake, (79-80) p. 27 B.
- Stella River, B.C., description of, (76-77) p. 46.
- Stellar coal-seam, Acadia Mines, Pictou, N.S., (66-69) E. p. 70, F. p. 77.
- outcrops westward, (66-69) E. p. 76, F. p. 85.
- section of, (66-69) E. p. 377, F. p. 418.
- Stellar coal-seam—*Cont.*
- note on coal of, (66-69) E. p. 377, F. p. 418.
- analysis of coal from, (66-69) E. p. 377, F. p. 418.
- oil-shale from, analysis of, (66-69) E. p. 318, F. p. 419.
- description of seam, (66-69) E. p. 380, F. p. 422.
- Stellar mine, Pictou coal-field, N.S., note on workings in oil-coal, (66-69) E. p. 96, F. p. 108.
- Stellarite, analysis of, (66-69) E. p. 380, F. p. 424.
- note on workings of in Fraser area, Pictou, N.S., (66-69) E. p. 96, F. p. 108.
- Stenopora fibrosa*, Goldfuss, wood-cut of, (1863) pp. 124, 156.
- wood-cuts of varieties of, (1863) p. 206.
- Stenopora petropolitana*, Pander, wood-cut of, (1863) p. 156.
- Stephanoceras* Sp., note on specimens from Ittasyouco River, B.C., (76-77) p. 156.
- Stephanoceras Brakenridgii*, Sow., note on specimen from Sigutlat Lake, B.C., (76-77) p. 156.
- Stephanoceras Humphreysianum*, Sow., note on specimens from Sigutlat Lake, B.C., (76-77) p. 156.
- Stephen's manganese mine, Walton, Hants Co., N.S., note on workings at, (82-84) p. 21 L.
- Sterling mine, Cowichen, B.C., assays of galena for gold and silver, (79-80) p. 20 H.
- STEVENSON, J. J., quoted on gold in volcanic rocks of Colorado, (76-77) p. 479.
- Steward's Neck, Maine, felsites probably of Mascarene Series, (70-71) p. 158.
- Stewart Brook, North-east Margaree River, N.S., pre-Cambrian rocks of, limestone and copper-ore, (82-84) p. 24 H.
- Stewart Pond, Guysborough, N.S., trap-like and felspathic rocks of, (79-80) p. 10 F.
- analysis of micaceous iron-ore from, (79-80) p. 14 H.
- Devonian rocks of, ores of copper and iron, and fossil plants in, (79-80) pp. 46-47 F.
- Stewart seam, Potters Brook, Pictou, N.S., section of rocks, (66-69) E. p. 47, F. p. 53.
- Stibnite reported on Saguenay River, Que., (82-84) p. 9 D.
- Stickeen River, B.C., note on gold workings on, (76-77) p. 138.
- gold on, (76-77) p. 117.
- Stigmariæ* of underclays of Coal Measures, N.S., (74-75) p. 198.
- Sterling pit, Little Glace Bay mines, N.S., section at, (74-75) pp. 215-217.
- Stobies slate location north of Echo Lake, Ont., rocks of, (76-77) p. 210.
- Stock ranges, grazing land of plateau south of Kamloops, B.C., (77-78) p. 35 B.
- Stoco Lake, Hastings Co., Ont., the lower part of Trenton Group on, (1863) p. 179.

- Stoke Mountains, Que., rocks of Quebec Group in, (1863) p. 252.
reference to rocks of, higher series to west of syncline, (1863) p. 435.
age of rocks of, (80-82) p. 2 A.
- Stoke Tp., Que., rocks of Quebec Group in, width of, (1863) p. 252.
clay-slates of Gaspé Series on Windsor River, limestones overlying, (1863) p. 436.
- Stone adze used by Haida Indians, (78-79) p. 143 B.
- Stone Fort or Lower Fort Garry, Man, fossils collected by A. R. C. Selwyn at, (72-73) p. 18.
- Stonehouse Lake, Storrington Tp., Ont., crystalline-limestone of, (72-73) p. 171.
- Stone models of carved posts made by Skidegate Indians, (78-79) p. 148 B.
- Stone mortar found in terrace on Fraser River, B.C., (82-84) p. 37 B.
- Stone mortars used by Haida Indians, (78-79) p. 141 B.
- Stone mortars used by Haida Indian figured on Plate VIII, (78-79) Part B.
- Stone paints, general composition of, (1863) p. 767.
- Stony Brook, Gardners Creek, N.B., pre-Silurian rocks of, (77-78) p. 12 DD.
- Stony Creek, Nechacco River, B.C., width of rich soil on, (75-76) p. 33.
- Stony Lake, Peterborough Co., Ont., Trenton escarpment south of, (1863) p. 188.
- Stony Lake between Dummer and Burleigh Tps., Ont., rocks of, (66-69) E. p. 147, F. p. 164.
- Stony Mt., Man., Lower Silurian rocks reported by H. Y. Hind, (73-74) p. 83.
notes on Silurian fossils from, list of, (78-79) pp. 49-50 C.
- Stony Point, Lake Winnipeg, Man., dolomite exposures, (74-75) p. 39.
- Stony Ridge, N.B., Carboniferous conglomerates and sandstones of, (72-73) p. 219.
- Stony seam, Sydney Harbour, N.S., section of, (74-75) p. 234.
- Storage of coal in coal mines remarks by Mr. Rutherford on, (72-73) p. 293.
- Stormont, N.S., statistics of gold for 1869-71, (71-72) p. 150.
note on gold-field, area of, (82-84) p. 15.
- Stormont Co., Ont. :—
for general geology see *Part I*, p. 15.
- Storms on west coast, B.C., vicinity of Queen Charlotte Islands, note on, (78-79) p. 43 B.
- Storrington Tp., Ont., description of Potsdam sandstone in with section, (1863) pp. 97-99.
section of basal beds of Trenton Group at Vanlouvern's mills, (1863) p. 177.
rocks in suitable for flagging, (1863) p. 829.
leads veins uncovered near Battersea, (70-71) p. 314.
- Storrington Tp., Ont.—*Cont.*
phosphate basin of, (72-73) pp. 170-174.
notes on rocks of, (72-73) pp. 162-163, 170-174.
analysis of apatite from, (77-78) pp. 2-3, 10 H.
- Stout's Gulch, B.C., gold workings of, (76-77) p. 135.
assay of quartz from, (76-77) p. 478.
- Strait of Belle Isle, fossils collected on by T. C. Weston, (72-73) p. 2.
- Strait of Canso, N.S., section of rocks from Emery Pond to Plaster Cove, (79-80) pp. 79-83 F.
Map-sheet issued, 1884, scale 1 m. = 1 in.
- Strait of Georgia, B.C., coal deposit on Vancouver Island, report on, (71-72) pp. 76-89.
- Strait of Georgia glacier, extent, striation, height of ice action, (77-78) p. 134 B.
- Straight Shore, Portland, St. John Co., N.B., plumbago mined at, (70-71) p. 231.
- Straparollus*, from Arisaig, N.S., (76-77) p. 434.
- Straparollus asperostriatus*, Billings, wood-cut of, (1863) p. 144.
- Straparollus Circe*, Billings, wood-cuts of, (1863) p. 144.
- Straparollus Eurydice*, Billings, wood-cuts of, (1863) p. 144.
- Stratford, Ont., elevation at G.T.Ry. station, (1863) p. 15.
- Stratford Tp., Que., note on exposures of Gaspé Series in, (1863) pp. 429-430.
- Strathlorne, N.S., Lower Carboniferous rocks of, (82-84) p. 38 H.
probability of coal at, (82-84) p. 74 H.
- Strathroy well, Ont., record of boring, (63-66) p. 248.
- Stratified deposits of Lake Winnipeg and Winnipeg River to English River, (72-73) pp. 14-17.
of Red River and Assiniboine River valleys, thickness and character, (74-75) p. 48.
- Stratified sand and gravel of southern New Brunswick, (77-78) pp. 11-22 EE.
- Stratigraphical collection of rocks supplied from Survey, (76-77) p. 7.
- Stratigraphical nomenclature used by Canadian Survey, (80-82) pp. 48-49.
- Stratigraphical position, of coal-seams in eastern New Brunswick, (80-82) p. 6 D.
of Bonaventure Formation, (79-80) p. 10 D.
- Strathmore, Ont., analyses of soils from, (1863) pp. 639-640.
- Strawberry Brook, Kaministiquia River, Ont., Huronian rocks of, (66-69) E. p. 331, F. p. 365.
- Strawberry Island, Manitoulin Is., Ont., surface oil-springs at, (63-66) p. 179.
- Streptorhynchus Pandora*, Billings, wood-cuts of, (1863) p. 369.
- Streptorhynchus Woolworthana*, Hall, wood-cut of, (1863) p. 957.

- Striæ, glacial, *see* Glacial striæ.
- Striatopora Linneana*, Billings, wood-cut of, (1863) p. 383.
- Stricklandia elongata*, Vanuxem, wood-cuts of, (1863) p. 371.
- Strike of beds, at Pewabic mine, Michigan, (63-66) p. 155.
at Portage Lake, Michigan, (63-66) p. 150.
- Strike of gneiss, on Cross Lake, Nelson River, Keewatin, (79-80) p. 6 C.
on East Main coast, Hudson Bay, list of, (77-78) p. 9 C.
in district around Gods and Island Lakes, Keewatin, table of, (78-79) pp. 34-35 C.
on shore of Lake Superior, (63-66) p. 120.
on boat route from Lake Winnipeg to Hudson Bay, list showing, (77-78) p. 9 CC.
on east shore of Lake Winnipeg, list of, (77-78) pp. 23-24 CC.
and mica-schist north of Long Lake, Algoma, Ont., (70-71) p. 344.
on Nelson River, upper part, list showing, (77-78) pp. 16-17 CC.
- Strike of rocks, interior of British Columbia, (71-72) p. 66.
on Pic River and McKay Lake, Ont., list of, (70-71) pp. 330-331.
south shore Michipicoten Is., Ont., (63-66) p. 139.
- String Lakes, Cape Breton Co., N.S., contact of Lower Silurian with argillites, (77-78) p. 13 F.
- Striped maple, note on distribution of in Canada, (79-80) p. 53 C.
- Striped Mountain, Similkameen River, B.C., wood-cut of, (77-78) p. 84 B.
section of, thickness of rocks, (77-78) p. 85 B.
- Strite's Pond, Phillipsburgh, Que., outcrop of, div. A., (1863) p. 847.
- Stromatopora rugosa*, Hall, wood-cut of, (1863) p. 140.
- Strombodes gracilis*, Billings, wood-cut of, (1863) p. 306.
- Strombodes pentagonus*, Goldfuss, wood-cut of, (1863) p. 306.
- Strontia, salts of, note on presence in mineral waters of Canada, (1863) p. 553.
sulphate of, note on occurrence of, at Kingston, Ont., and other localities, (1863) p. 459.
note on celestite deposits of Sydney River, N.S., (75-76) p. 417.
- Strophomena alternata*, Conrad, wood-cuts of, (1863) p. 163.
- Strophomena ampla*, Hall, wood-cuts of, (1863) pp. 367-368.
- Strophomena deltoidea*, Conrad, wood-cut of, (1863) p. 163.
notes on specimens from lower part of Athabasca River, (75-76) p. 104.
- Strophomena demissa*, Conrad, wood-cuts of, (1863) p. 367.
notes on specimens from Rapide Bouillé, Peace River, (75-76) p. 104.
- Strophomena filitexta*, Hall, wood-cuts of, (1863) p. 164.
- Strophomena fluctuosa*, Billings, wood-cut and section of, (1863) p. 209.
- Strophomena Hecuba*, Billings, wood cut of, (1863) p. 209.
- Strophomena inaequistriata*, Conrad, wood-cuts of, (1863) p. 367.
notes on specimens from Rapide Bouillé, Peace River, (75-76) p. 104.
- Strophomena Leda*, Billings, wood-cut of, (1863) p. 311.
- Strophomena magnifica*, Hall, wood-cuts of, (1862) p. 961.
- Strophomena magniventra*, Hall, wood-cut of, (1863) p. 368.
- Strophomena nitens*, Billings, wood-cut and section of, (1863) p. 209.
- Strophomena Patersoni*, Hall, wood-cut of, (1863) p. 367.
- Strophomena pecten*, Linnæus, wood-cut of, (1863) p. 311.
- Strophomena Philomela*, Billings, wood-cuts of two specimens, (1863) p. 311.
- Strophomena punctulifera*, Conrad, wood-cut of, (1863) p. 957.
- Strophomena rhomboidalis*, Wahlenberg, wood-cuts of, (1863) pp. 311, 367.
- Strophomena subdemissa*, notes on, from Rapide Bouillé, Peace River, (75-76) p. 104.
- Strophomena Thalia*, Billings, wood-cuts of, (1863) p. 164.
- Stuart Lake, B.C., limestones of, height of mountains, (75-76) p. 78.
notes on Permian or Carboniferous fossils, (75-76) p. 97.
rocks of Lower Cache Creek Series, (76-77) p. 55.
height of, above sea, (79-80) p. 24 B.
general description of, (79-80) pp. 28-29 B.
note on climate, agriculture, (79-80) p. 29 B.
number of Indians residing on shores of, (79-80) p. 30 B.
granites and schists probably of Cache Creek Group, note on Carboniferous of north-east side, (79-80) pp. 106-107 B.
terraces and shore-lines on cliffs, (79-80) p. 137 B.
latitude observations taken at, (79-80) p. 158 B.
and François Lake, B.C., map of, Sheet I., (79-80) accompanying part B.
to Fort McLeod, botanical notes and journal of J. Macoun, (75-76) pp. 137-142.
description of country, (79-80) pp. 31-33 B.
note on rocks of, (79-80) p. 107 B.
- Stuart River, B.C., character of country on telegraph-trail, (75-76) p. 133.

- Stubbart seam, Boulardrie Island, N.S., equivalent to Capel Point seam, (74-75) p. 243. section of, (74-75) p. 246.
- Stukley Tp., Que., copper-ore localities in, (1863) p. 722 and (63-66) p. 201. copper-ores found in, (1863) p. 731. excavations in for copper-ores, (63-66) p. 34. Grand Trunk mine, (63-66) p. 34. microscopic structure of felspathic actinolite schist from lot 6, R. VII., (80-82) pp. 17-18 A.
- Stump Lake B.C., description of, modern in age, character of outlet, (77-78) p. 29 B. character of rocks at, (77-78) p. 78 B. glaciation of high levels near, (77-78) p. 137 B.
- Stupart Bay, Prince of Wales Sound, Hudson Strait, rocks of, glacial striae and raised beaches, (82-84) pp. 25-27 DD.
- Stupart Point, Sydney Harbour, N.S., section of Millstone Grit to Limestone Creek, (74-75) pp. 187-188. section of Coal Measures to Cranberry Head, (74-75) pp. 231-234.
- Sturgeon Bay, Franklin Inlet, Lake Huron, rocks of, (76-77) p. 201.
- Sturgeon Lake, English River, Ont., mica-schist rocks of, (73-74) p. 87. and chain of lakes to Mille Lacs, rocks of, (72-73) p. 96. Huronian schists of, (72-73) p. 100. glacial striae in vicinity of, (74-75) p. 44.
- Sturgeon Lake, Trent River, Ont., elevation of, (1863) p. 12. fossils found in Trenton Formation at, (1863) p. 191.
- Sturgeon Lake, south of Smoky River, Atha., description of, (79-80) p. 64 B.
- Sturgeon Portage, Mattagami River, Ont., character of falls at, rocks at, (75-76) p. 313.
- Sturgeon River, Alberta and size, course of, (73-74) p. 37. latitude observation taken at trail-crossing, (79-80) p. 162 B. to Edmonton, description of country, (79-80) p. 87 B.
- Sturgeon River, Mich., Keweenaw Point, (63-66) p. 149.
- Sturgeon River, English River, Ont., portages and falls on, (72-73) p. 10.
- Sturgeon River, Lake Nipissing, Ont., boundary of Laurentian on, (1863) p. 47. note on diorites at base of Huronian, sequence of Huronian rocks near, (1863) pp. 51-52. numerous Huronian boulders on, (1863) p. 894. note on geology of part of, (75-76) pp. 297-298. to Montreal River, canoe-route, (75-76) p. 298.
- Styles Brook, Cumberland Co., N.S., continuation of Coal Measures east of, (73-74) pp. 166-168.
- Styles Brook, Cumberland Co., N.S.—*Cont.* conglomerate of, probably summit of Millstone Grit, (73-74) p. 165. characters and thickness of conglomerates of, (73-74) pp. 164-166.
- Styles mine, Springhill, Cumberland Co., N.S., section near Hickman's pit, (73-74) p. 160. horizon of coal-seams of, (73-74) p. 165. analyses of coal from, (74-75) p. 13.
- Submerged hollows left by glaciers on Queen Charlotte Islands, B.C., (78-79) p. 100 B.
- Submergence of continent at beginning of Trenton period, examples showing sudden nature of, (1863) p. 295.
- Submergence of British Columbia in glacial times, effect of, (77-78) p. 135 B.
- Submergence of Peace River plateau accounting for Laurentian drift, (79-80) p. 140 B.
- Sub-Pierre series on Belly River, Alta., note on characters of, (80-82) pp. 7-8 B.
- Subsidence, effect of in eastern Canada, (1863) p. 13.
- Subsidence of land, on Atlantic coast of southern New Brunswick, (77-78) pp. 32-34 BB. around Hudson Bay, evidence of, in vicinity of York Factory, (77-78) pp. 25 CC. note giving reasons for belief in, record of present level at two places on East Main coast, (77-78) pp. 32-33 C. at Fort Churchill, (78-79) p. 21 C.
- Subulites calcifera*, Billings, wood-cut of, (1863) p. 120.
- Subulites elongatus*, Emmons, wood-cuts of, (1863) p. 183.
- Subulites ventricosus*, Hall, wood-cut of, (1863) p. 339.
- Succession to chieftaincy among Haida Indians, (78-79) p. 119 B.
- Sucia Island, Strait of Georgia, fossils from, examined by J. F. Whiteaves, (74-75) p. 12. visited by Jas. Richardson in 1876, lignite localities, (74-75) pp. 82-83. situation of, rocks of, (76-77) p. 185.
- Suffield copper-mine, Ascot Tp., Que., assay of silver-ore from, (75-76) p. 431. assay of roasted-ore, (76-77) p. 481. depth of shaft, ore exposed, daily output, character of ore, (80-82) pp. 2-3 GG.
- Suffolk Tp., Ottawa Co., Que., Green Lake band of Laurentian limestones in, (63-66) p. 13.
- Sugar, pure cane, analysis of, (82-84) p. 4 M.
- Sugar Camp Brook, Inverness Co., N.S., Devonian rocks of, (79-80) p. 52 F.
- Sugar Camp road, Inverness Co., N.S., exposures of Devonian on, (79-80) p. 53 F.
- Sugar Creek, B.C., gold-workings on, (76-77) p. 135.
- Sugar Island, Lake Huron, narrow strip of Huronian on, (1863) p. 63. boulders on, (1863) pp. 893-894. note on sandstone on, (1863) p. 84.

- Sugar Island, Stoco Lake, Hastings, Ont., basal-beds of Trenton Group, (1863) p. 179.
- Sugar-loaf Mountain, Campbellton, N.B., trap rocks of, (1863) p. 449.
- felsite rocks of, (79-80) p. 39 D.
- Sugar-loaf Hill, Lake Nipigon, Ont., note on, (66-69) E. p. 347, F. p. 384.
- Sugar maple, note on northern limit of in Canada, (79-80) p. 51 C.
- Sugar phosphate, of Ottawa region, Que., note on, (77-78) p. 15 G.
- Sukunka or Middle Branch Pine River, B.C., size of valley, description of country at mouth, (79-80) pp. 41-42 B.
- Sullivan's, North Thompson River, B.C., slaty limestone at, (77-78) p. 82 B.
- Sullivan Creek, St. John River, N.B., kame at mouth of, (82-84) p. 22 GG.
- Sulphate of baryta, in North Burgess Tp., Ont., (73-74) pp. 113, 120.
- vein of at Hull, Que., description of, (73-74) p. 145.
- see also* Barytes.
- Sulphate of iron, *see* Copperas.
- Sulphate of lime, in Ontario salt-brines, (74-75) p. 271.
- see also* Gypsum.
- Sulphate of magnesia, description of manufacture of, (1863) pp. 460, 756.
- Sulphate of strontia, description native, of, (1863) p. 459.
- see also* Celestite.
- Sulphur, occurrences of native in Ontario, localities cited, (1863) p. 530.
- in clay-ironstone, state of combination, (73-74) p. 241.
- in coals and lignites, method of determining, (82-84) pp. 2-3 M.
- in iron-ores, roasting of ores in Sweden, (66-69) E. p. 249, F. p. 276.
- Sulphur Island, Lake Huron, base of Hudson River Rocks on, (1863) p. 219.
- Sulphur springs on Clearwater River, Atha., (75-76) p. 94.
- at London, Ont., (63-66) p. 249.
- in Simard Tp., Saguenay, Que., (82-84) p. 11 D.
- Sulphuret of antimony, mode of occurrence at Marmora, Ont., (63-66) p. 218.
- Sulphurets, note on presence of in mineral-waters in Canada, (1863) p. 555.
- Sulphuretted hydrogen, origin of in mineral-waters in Canada, (1863) pp. 556.
- Sulphuric acid, manufacture of, uses in other chemical works, value of product, (1863) pp. 746-747.
- manufacture of near Brockville, Ont., (74-75) p. 307.
- Sulphuric acid springs, at Tuscarora, Ont., analysis of water, (1863) pp. 545-546.
- note on origin of, (1863) p. 556.
- Sultana lead, Lake of the Woods, Ont., assays of ore from, (82-84) p. 11 MM.
- description of, (82-84) p. 17 K.
- Sumallow River, B.C., size of, trail to from Hope, (77-78) p. 45 B.
- crystalline rocks on, (77-78) pp. 68-69 B.
- note on granite area on, (82-84) p. 16 B.
- Sumass, B.C., character of country along International boundary, (82-84) p. 10 B.
- Sumass Mountain, B.C., note on rocks of, (82-84) p. 10 B.
- Sumass prairie, B.C., location of, (75-76) p. 116.
- Summary of work of officers of Survey from 1843 to 1862, (1863) pp. iii-xvi.
- Summary report of the Director, for 1863-66, (63-66) pp. 3-27.
- for 1866-68, (68-69) pp. 3-9 Summ.
- for 1869-70, (69-70) pp. 3-12 Summ.
- for 1870, (70-71) pp. 1-11.
- for 1871-72, (71-72) pp. 11-15.
- for 1872-73, (72-73) pp. 1-18.
- for 1873-74, (73-74) pp. 1-12.
- for 1874-75, (74-75) pp. 1-16.
- for 1875-76, (75-76) pp. 1-7.
- for 1876-77, (76-77) pp. 1-16.
- for 1877-78, (77-78) pp. 1-9.
- for 1879, (78-79) pp. 1-6.
- for 1880, (79-80) pp. 1-9.
- for 1881, (80-82) pp. 1-12.
- for 1882, (80-82) pp. 12-29.
- for 1883, (82-84) pp. 1-24.
- Summer frosts, in valleys of Babine and Stuart Lakes, B.C., (79-80) p. 29 B.
- at Dunvegan, Peace River, in 1879, effect of, (79-80) p. 69 B.
- not reaching below Dunvegan on Peace River, (75-76) p. 160.
- at Fort McLeod, B.C., (75-76) p. 140.
- none reported at Moose Factory in 1877, (77-78) p. 27 C.
- in valley of Parsnip River, B.C., (75-76) p. 143.
- Summer Hill, N.B., Lower Carboniferous, doleritic amygdaloid rocks at, (72-73) p. 189.
- hematite in amygdaloid at, (72-73) p. 227.
- Summer Hill Brook, Nerepis River, N.B., Lower Carboniferous rocks at, (72-73) p. 188.
- fossils in paste of conglomerate, (72-73) p. 189.
- red limestone in thin beds at, (72-73) p. 228.
- Summers Lake, Guysborough Co., N.S., (79-80) p. 112 F.
- Summerside, P.E.I., note on rocks of, (82-84) p. 14 E.
- Summit above Whipsaw Creek, B.C., section of crystalline rocks, (77-78) p. 63 B.
- Summit Lake, Pine Pass, B.C., illustration of and view down Atunatche valley, (79-80) frontispiece to Part B.
- and Limestone Mountains, illustration of, (79-80) facing p. 36 B.
- Summit Lake of Skaist River, B.C., note on contact of granite and Cretaceous rocks, (82-84) p. 17 B.

- Sunbury, Co., N.B., report on Carboniferous Formation in, (72-73) pp. 180-230.
 topographical features caused by characters of rocks of, (72-73) p. 197.
 Middle and Upper Carboniferous in, (72-73) pp. 197-225.
 pre-Carboniferous rocks of, (75-76) pp. 350-368.
 felsite areas in southern part, (75-76) pp. 350-352.
 Upper Silurian (Mascarene Series) in, (75-76) pp. 352-366.
 list of glacial striæ observed in, (77-78) p. 7 EE.
 geological report and résumé of former reports, with map, (78-79) pp. 1-26 D.
 map of part of, on Frederiction Map-sheet issued in 1884.
for general geology see Part I, p. 7.
- Sun-dial Hill, Alta., description of by J. C. Nelson, (82-84) p. 28 C.
- Sunlight, daily duration of, on Peace River, (79-80) p. 78 B.
- Sunnidale Tp., Ont., description of lacustrine sandy deposit, (1863) p. 910.
- Sunnyside Lake, St. John Co., N.B., magnetic iron-ore at, (70-71) p. 54.
 rocks exposed at, (70-71) p. 78.
- Sunnyside Lake, Kings Co., N.B., antimony-ores at, (70-71) p. 227.
- Sunnyside well, London, Ont., record of, (63-66) p. 249.
- Superficial character of apatite deposits, with section, (74-75) p. 111.
- Superficial deposits, of Albany River valley, Ont., and Keewatin, (71-72) p. 111.
 and glaciation of southern Alberta, (82-84) pp. 139-152 C.
 in southern Alberta, table of deposits, (82-84) p. 140 C.
 of Athabasca Valley, (82-84) pp. 28-30 CC.
 and glaciation of northern British Columbia, (79-80) pp. 136-142 B.
 of vicinity of International boundary, B.C., (82-84) pp. 33-35 B.
 of central British Columbia, general description, classification, (75-76) p. 262.
 of southern British Columbia, (77-78) pp. 133-166 B.
 of southern Cape Breton Island, mostly of little travelled detritus, (79-80) p. 111 F.
 of valley of Fraser and North Thompson rivers, B. C., (71-72) pp. 54-56.
 at Goderich, Ont., section of, (76-77) p. 225.
 of Magdalen Islands, Que., (79-80) pp. 8-9 G.
 map showing distribution of, between Lake Superior and Gaspé, (1863) Atlas.
 on the plains of the North-west Territories, (73-74) p. 20.
 of Queen Charlotte Islands, B.C., (78-79) pp. 89-96 B.
 on Vancouver Island, B.C., thickness and characters of, (71-72) pp. 93-94.
- Superficial geology of part of Athabasca River valley, (82-84) pp. 28-30 CC.
 of coast of British Columbia, (74-75) pp. 74-75.
 of part of Cape Breton Co., N.S., (75-76) pp. 412-414 and (76-77) p. 448.
 of Cape Breton and Richmond Cos. N.S., (77-78) pp. 25-28 F.
 of southern part of Cape Breton Island, N.S., (82-84) pp. 76-83 H.
 of East Main coast, Hudson Bay, (77-78) pp. 29-33 C.
 soil and climate, north of Lake Superior in Ontario, (70-71) pp. 349-350.
 of county west of Lake Superior, (72-73) p. 111.
 of county between Lake Winnipeg and Hudson Bay, (77-78) pp. 24-31 CC.
 of Manitoulin Island, Ont., (63-66) p. 177.
 of Michipicoten and Magpie Rivers, Ont., (80-82) p. 8 C.
 of county east of Missinaibi Lake, Ont., (80-82) p. 9 C.
 of north-eastern New Brunswick, note on shell marl, marine clay, peat bogs and glacial markings, (79-80) pp. 42-43 D.
 note on, (80-82) pp. 20-21 D.
 of southern New Brunswick, (77-78) pp. 1-36 EE.
 of western New Brunswick, York and Carleton Cos., (82-84) pp. 5-47 GG.
 of Nipigon region, Ont., (66-69) E. pp. 351-357, F. pp. 388-395.
 of the North-west Territories, (74-75) pp. 40-56.
 of Ontario and Quebec, (1863) pp. 886-930.
 of part of Richmond, Inverness, Guysborough and Antigonish Cos., N.S., (79-80) pp. 111-114 F.
 of valley of Saskatchewan River, (73-74) pp. 57-58.
 of Sydney coal-fields, N.S., (74-75) pp. 264-266.
- Superior, Lake, *see* Lake Superior.
- Superphosphate of lime, note on manufacture of, (1863) p. 759.
 Canadian apatite as material for manufacture of, (77-78) p. 13 H.
- Superphosphate works, at Brockville, Ont., description of manufacture, (74-75) pp. 307-308.
 of Michelet and Thibault, Villette-Paris, process employed, (77-78) p. 12 H.
- Superposition of older on newer formations in Gaspé, Que., appearance of, (80-82) p. 23 DD.
- Supplies, cost of in Cariboo gold district, B.C., (76-77) p. 113.
- Suquash River, Vancouver Island, B.C., analysis of coal from, (72-73) p. 79.
- Surface seam, Grand Lake district, N.B., probable yield of coal from, (72-73) p. 223.
 extent of, sketch of outcrops of, quality of coal, (78-79) p. 20 D.

- Surface Works at New Campbellton coal-mine, N.S., (73-74) p. 186.
at Springhill colliery, N.S., (73-74) p. 160.
- Surveys made by R. Bell, in 1870, list of distances, (70-71) p. 324.
of mouth of Hayes River, Hudson Bay, details of method, (77-78) p. 13 CC.
of upper part of Nelson River, character of, (77-78) p. 13 CC.
and A. S. Cochrane in 1879 (78-79) p. 4 C.
- Surveys for railway location in Nelson River valley, reference to, (79-80) p. 33 C.
of Queen Charlotte Islands, other than those of early voyages, dates of, (78-79) p. 13 B.
see also under name of explorers for details of surveys.
- Susk Indian village, on Frederick Island, Q. C. Is., Dixon's account of, (78-79) p. 171 B.
- Suskwa River, B.C., branches of, description of valley of, (79-80) p. 22 B.
fossil leaves from, (79-80) p. 104 B.
description of valley on Babine Portage, (79-80) p. 21 B.
- Suspension Bridge, B.C., crystalline rocks of Cascade Series at, (71-72) pp. 63-64.
- Suspension Bridge, St. John, N.B., Huronian rocks at, thickness of, (70-71) p. 61.
- Suspension bridges as built by Indians in northern British Columbia, (79-80) p. 21 B.
- Sussex, Kings Co., N.B., beds of gypsum at, (70-71) p. 237.
succession of beds in Lower Carboniferous, (70-71) p. 205.
Lower Carboniferous rocks of, (70-71) p. 208.
- Sussex, England, deep-boring in, (74-75) p. 4.
- Sussex Parish, N.B., gravel ridges in, (77-78) p. 14 EE.
- Sussex road, N.B., Huronian rocks near Quaco, (70-71) p. 64.
- Sussex salt-works, N.B., statistics for 1869-71, (71-72) p. 151.
- Sussex Station, N.B., bituminous shales on Ward Creek, (78-79) p. 16 D.
- SUTHERLAND, Mr., report on practical trial of Gowrie coal of Nova Scotia, (72-73) p. 283.
- SUTHERLAND, W. D., mining operations of, on Souris River, Assa., section at mine, lignite, (79-80) p. 5 A.
- Sutherland area, Pictou coal-field, N.S., seam in trial pits, (66-69) E. p. 82, F. p. 92.
work done, portion of seams, (66-69) E. p. 103, F. p. 116.
- Sutherland Bridge, Sutherland River, N.B., spathic ores of, (66-69) E. p. 441, F. p. 493.
analysis of spathic ores, (66-69) E. p. 442, F. p. 493.
gypsum deposits near spathic ore beds, (73-74) p. 238.
report by G. M. Dawson, on spathic iron-ores quoted, (73-74) p. 238.
- Sutherland Bridge—*Cont.*
analysis of spathic iron-ore from, (73-74) p. 239.
- Sutton Mountain, Que., rocks of, slates, (1863) p. 247.
structure of, rocks of supposed to be above magnesian bands, (1863) p. 251.
granitic gneiss of eastern Palæozoic area, (1863) p. 600.
rocks of, (63-66) p. 33.
copper-ores from west side of, (63-66) p. 34.
position of, gneiss of, (77-78) p. 7 A.
- Sutton Tp., Que., note on occurrence of magnetite rock, analysis of, (1863) p. 457.
chromiferous mica recorded from, (1863) p. 494.
sphene in iron slates of, (1863) p. 502.
analysis of dolomite from, (1863) p. 613.
note on magnetic iron-ore deposits, (1863) p. 677.
analysis of iron slates from, (1863) p. 679.
localities for copper-ores in, (1863) p. 721 and (63-66) p. 295.
references to description of beds carrying carbonate of magnesia in, (1863) p. 756.
deposits of soapstone in, (1863) p. 797.
mica-slates of, may make flagstones, (1863) p. 828.
copper-ores in Sillery division of the Quebec Group, (63-66) p. 37.
localities in, (63-66) p. 295.
magnetite in dolomitic and chloritic rocks of, (73-74) p. 205.
composition of titanite iron-ore from lot 8, R. IX., (73-74) p. 228.
analysis of dolomite, referred to, (77-78) p. 38 G.
partial analysis of pyrrhotite from R. XI., (79-80) p. 21 H.
felspathic actinolite schist from lot 1, R. II, microscopic structure of, (80-82) p. 16 A.
- Swallow Tail light-house, Grand Manan Island, N.B., pre-Cambrian rocks at, (70-71) p. 102.
trap dykes at, (70-71) p. 221.
- Swamp-ash, note on northern limit of in Canada, (79-80) p. 48 C.
- Swamp Creek, east branch of Salmon River, B.C., above Fort George, width of, (75-76) p. 34.
valley of, botanical notes on, (75-76) p. 139.
gold-workings on, (76-77) p. 136.
- Swamp white-oak, note on range of in Canada, (79-80) p. 55 C.
- Swampy Lake, below Oxford Lake, Keewatin, character of country, rocks exposed, (77-78) p. 6 CC.
exposure of peat on, (78-79) p. 33 C.
- Swampy Portage Lake, south of Knee Lake, Keewatin, deposits of peat, (78-79) p. 33 C.
- Swan Creek, Oromocto River, N.B., Upper Carboniferous rocks on, (72-73) p. 221.
- Swan Lake, Man., size of, ice-formed beaches, limestone exposures, (74-75) p. 60.

- Swan River, Man., examination by R. Bell, (74-75) pp. 32-35.
 lignite and sandstone exposed, (74-75) p. 34.
 character of, (74-75) p. 35.
 lignite on Sanders River, (74-75) p. 59.
 section of drift deposits opposite Thunder Hill, (74-75) p. 63.
 section of drift 50 miles below, (74-75) p. 64.
 section of Cretaceous rocks near Thunder Hill, (74-75) p. 64.
 thickness of Cretaceous on, (74-75) p. 65.
 notes by G. M. Dawson on Cretaceous limestones of, (74-75) pp. 66-67.
 peat-beds below crossing of, (74-75) p. 69.
 boring made in 1875 in valley of, note on strata passed through, (75-76) pp. 292-293.
 general description, average width, fall in, (74-75) p. 59.
- Swanson Bay, coast of British Columbia, rocks of, (74-75) p. 77.
- Swanton, Vermont, wood-cut of *Lingula Perryi* from, (1863) p. 274.
 rocks exposed at falls on Missisquoi River, inverted position of rocks, overturn dips, etc., (1863) p. 280.
 section of Red Sandrock at, (1863) p. 281.
 additional notes on exposures of Phillipsburgh Series and Potsdam Group near, with diagrammatic section, (1863) pp. 856-857.
- Swanton Falls, Vermont, diagrammatic section of rocks at, (1863) Atlas.
- Sweden, iron and iron-ores of, note on, (66-69) E. pp. 245-252, F. pp. 271-280.
 production of iron in 1865, number of men employed, (66-69) E. p. 245, F. p. 271.
 laws concerning mines and blast-furnaces in, (66-69) E. p. 248, F. p. 274.
 composition of ores, effect of sulphur, roasting of, (66-69) E. p. 249, F. pp. 275-276.
 composition of iron-ores of, (66-69) E. p. 251, F. p. 278.
 mercury and galena in Laurentian rocks of, (63-66) p. 196.
 occurrence of apatite in iron-ore of, (63-66) p. 204.
 cost of mining magnetic iron-ores, (73-74) p. 244.
- Swedish fossils, collection of obtained by exchange, (70-71) p. 10.
- Sweet Grass Hills, Montana, general description of, height, etc., (82-84) p. 16 C.
 geological description of, (82-84) pp. 45-48 C.
 note on height of Laurentian drift-deposits on sides of, (82-84) p. 148 C.
- Swift Current Creek, Assa., lignite reported on, general direction of bed of, (73-74) p. 74.
- Swift Point, St. John, N.B., Laurentian limestones of, (70-71) p. 39.
- Swift River, B.C., gold-workings on, (76-77) p. 137.
- Sydenham, Ont., celestite and blende in basal beds of Trenton Group, (1863) p. 183.
 boring through gypsum, (63-66) p. 251.
- Sydenham Lake, North Mountain, Inverness, N.S., outliers of crystalline limestone, (79-80) p. 21 F.
- Sydenham River, Ont., indentation in outcrop of Clinton Formation near Owen Sound, (1863) p. 315.
 exposures of Niagara Formation at falls on (1863) p. 329.
 note on surface deposits at Owen Sound, (1863) p. 898.
- Sydenham Tp., Ont., outcrop of Clinton Formation in, (1863) p. 315.
 absence of grey-band between Medina and Clinton in, (1863) p. 316.
 distribution of Medina and Clinton Formations in, (1863) p. 317.
 exposures of Niagara Formation in, (1863) pp. 328-329.
 beds of brown clay in, (1863) p. 898.
- Sydney, N.S., hematite at top of Lower Carboniferous near, (73-74) p. 176.
- Sydney Bridge, Sydney Harbour, N.S., rocks exposed at, (75-76) p. 401.
- Sydney coal-field, N.S., report on coal mines in operation in, by Chas. Robb, (72-73) pp. 238-289.
 area, thickness of seams and quality of coal, (72-73) p. 240.
 collieries in operation in 1872, (72-73) pp. 241-289.
 list of collieries in operation, with statistics, (72-73) p. 290.
 description and analyses of coal from seams worked, (72-73) p. 290.
 disturbances in rocks of at Sydney Harbour, (73-74) p. 172.
 identification of coal seams often difficult, (73-74) p. 177.
 visited by A.R.C. Selwyn, lower Palaeozoic rocks recognized, (74-75) p. 9.
 report by Chas. Robb on part of, (74-75) pp. 166-266.
 surface geology of, (74-75) pp. 264-266.
 map of eastern part, scale 1 mile = 1 in., (74-75) facing p. 266.
 diagrams of sections in, (74-75) facing p. 266.
 report by H. Fletcher on, (75-76) pp. 369-418.
 surveys made by H. Fletcher to complete map of, (75-76) p. 370.
 topography of, (75-76) p. 370.
 syenitic, gneissoid and feldspathic rocks of vicinity of, (75-76) pp. 371-381.
 map of western part, (75-76) facing p. 418.
- Sydney Harbour, N.S., the Lower Carboniferous rocks of, (73-74) pp. 172-173.
 great disturbance in measures at coal mines, (73-74) p. 172.
 metamorphic or eruptive rocks of, (73-74) p. 173.
 thickness of Millstone Grit Formation at, (73-74) p. 177.
 section of Carboniferous limestone of, (74-75) pp. 169-174.

- Sydney Harbour, N.S.—Cont.**
 section of Carboniferous limestones, on Limestone Creek, (74-75) p. 172.
 faults in Carboniferous rocks, (74-75) p. 184.
 section of Millstone Grit from Victoria mines to South Bar, (74-75) pp. 185-186.
 section of Millstone Grit from Stupart Point to Limestone Creek, (74-75) pp. 187-188.
 thickness and analysis of coal from Mullin or Fraser seam, (74-75) pp. 192-193.
 north shore, note on Mr. Brown's section, (74-75) p. 231.
 quarries for flag-stones on shores of, (74-75) p. 263.
 stone suitable for building at, (74-75) p. 264.
 syncline in rocks at, (76-77) p. 404.
- Sydney Harbour coal-basin, N.S., section of strata from Low Point to Langan, (74-75) pp. 223-226.**
 general description, sections, coal-seams and mines, (74-75) pp. 223-242.
 section of strata from Low Point to McPhee's ferry, (74-75) pp. 227-229.
 absence of faults in, (74-75) p. 230.
 sections of strata, (74-75) pp. 231-238.
 section from Plant Point to Little Bras d'Or bridge, (74-75) pp. 237-238.
 the Bras d'Or basin, (74-75) pp. 242-250.
- Sydney Harbour and Glace Bay coal-basins, similarity between, (74-75) p. 230.**
- Sydney main seam, Sydney N.S., thickness and area mined, analysis of coal from, (72-73) p. 243.**
 gas returns from trial of coal by Halifax gas-works, (72-73) p. 244.
 description and analysis of coal from, (72-73) p. 290.
 section in Sydney Harbour, note on extension westward, (74-75) pp. 233-236.
 section on Little Bras d'Or Lake, (74-75) p. 238.
 in Bouldardrie district, is called the Crawley seam, (74-75) p. 243.
 section of, south of Point Aconi, (74-75) p. 246.
- Sydney coal-mines, N.S., report by Chas. Robb on, (72-73) pp. 242-248.**
 history, yield and seams operated, (72-73) p. 242.
 surface works at, (72-73) pp. 245-246.
 ventilation and production of, (72-73) p. 246.
 underground works at, (72-73) pp. 247-248.
 statistics of, output, force employed, plant, etc., (72-73) p. 290.
 section of measures, made by R. Brown, referred to, (73-74) p. 177.
 notes on extended workings, new winning shaft and wharf, (74-75) p. 239.
 diagrammatic section of measures, (74-75) facing p. 266.
- Sydney mines district, N.S., sections of strata and coal-seams, collieries, etc., (74-75) pp. 230-242.**
 situation and area, (74-75) p. 230.
 note on collieries in, (74-75) pp. 239-242.
- Sydney Mines Railway, North Sydney N.S., works, shops, etc., of, (72-73) p. 246.**
- Sydney River, N.S., red porphyry conglomerates, (75-76) p. 397.**
 section of Carboniferous limestone, (75-76) pp. 399-402.
 note on celestine from near the bridge, (75-76) p. 417.
 to St. Anne Harbour, diagrammatic sections, (75-76) p. 371.
- Sydney road, Cape Breton Co., N.S., shales and sandstones on, (77-78) p. 11 F.**
- Syenite, composition of, minerals forming, (1863) p. 647.**
 definition of term used for Cape Breton rocks, foot note, (79-80) p. 4 F.
 transition from diorite, (74-75) p. 137.
 in Laurentian, brick red in colour, (76-77) p. 273.
 in Argenteuil Co., Que., intrusive, (1863) p. 39.
 near Bachewanung Bay, Lake Superior, (63-66) p. 120.
 on Black River, Que., (76-77) p. 280.
 near Calhoun's mill, N.B., (76-77) p. 378.
 in Cape Breton Island, N.S., (76-77) pp. 405-425, 456.
 relation of to crystalline limestone series, (79-80) p. 18 F.
 intrusion of in Carleton Co., N.B., (82-84) pp. 25-26 G.
 on Coulonge River, Que., (76-77) p. 280.
 with epidote in Dalhousie and Darling Tps., Ont., (76-77) p. 253.
 superposition of gneiss upon, near Deux Rivières, Que., (76-77) p. 278.
 of Fraser Lake, B.C., (76-77) p. 83.
 of Granite Point, Burnaby Island, B.C., (78-79) p. 55 B.
 of Grenville, Que., characters of with analysis, (1863) pp. 654, 811.
 of Gros Cap, Lake Superior, (63-66) p. 120.
 of Lake Temiscaming, note on distribution of, (1863) p. 336.
 of Long Lake, Algoma, (70-71) p. 337.
 near Meganatawan River, Ont., (76-77) p. 202.
 of southern New Brunswick, general distribution and modes of occurrence, (78-79) p. 22 D.
 of vicinity of Partridge Bay, Lake Huron, Ont., (76-77) p. 197.
 on Petawawa River, Ont., (76-77) p. 277.
 on Pickanock River, Que., (76-77) p. 280.
 of Pollet and Coverdale Rivers, N.B., (76-77) p. 353.
 of Queens Co., N.B., in Petersville and Hampstead, (70-71) p. 33.
 of St. Anne Mt., N.S., jointed structure, (74-75) p. 258.
 coarse greenish-red in Thunder Bay District, Ont., (66-69) E. p. 328, F. p. 362.
 intrusions of in York Co., N.B., (82-84) pp. 25-26 G.
- Syenite area, between St. Norbert and Lac Pin Rouge, Que., character of, (79-80) pp. 4-5.**

- Syenite and trap belt, of southern New Brunswick, described by Dr. Gesner, (70-71) p. 19.
- Syenite gneiss of lower part of Churchill River, Keewatin, (78-79) p. 16 C.
- Syenite pebbles, in chlorite schist, Trout River near Oxford House, Keewatin, (77-78) p. 21 CC.
- in diorite conglomerate, Montreal River, Ont., (75-76) p. 302..
- Syenite ridge from Negro Lake to St. Martin, St. John Co., N.B., (70-71) p. 63.
- at New Campbellton mines, N.S., (73-74) p. 184.
- Syenitic rocks of Cape Breton Island, N.B., (76-77) pp. 405, 425.
- Synclinal axes in the Eastern Townships, Que., (63-66) p. 29.
- Synclinal basins in Carboniferous rocks of eastern New Brunswick, (80-82) p. 3 D.
- Synclinal fold of Kingston rocks, on Mascarene peninsula, N.B., (70-71) p. 126.
- Synclinal structure, in rocks near Barnesville, Kings Co., N.B., (77-78) p. 8 DD.
- of southern belt of pre-Silurian in, N.B., (77-78) p. 6 D.
- in Productive Coal Measures on west side of Pictou coal-field, N.S., (66-69) E. p. 73, F. p. 81.
- in Potsdam of Lower St. Lawrence, (66-69) E. p. 124, F. p. 139.
- of phosphate rocks in Loughboro' and Bedford Tps., Ont., (73-74) pp. 107-109.
- between Gatineau and Lièvre rivers, Que., (76-77) p. 300.
- Syncline on Boulardrie Island, N.S., (76-77) p. 405.
- in rocks of vicinity of Bow and Belly rivers, Alta., (80-82) p. 3 B.
- on north-east coast, Georgian Bay, Ont., (76-77) p. 195.
- in Horton Tp., Ont., (76-77) p. 258.
- in Hudson River Formation, near Nicolet, Que., occupied by red shales, (1863) p. 205.
- in Huronian between Marsh and Blind rivers, Ont., (1863) p. 844.
- at Lieutenant Pond, N.S., (76-77) p. 439.
- on McLeod Brook, Pictou, N.S., (66-69) E. p. 62, F. p. 69.
- in limestones in Madawaska Tp., Ont., (76-77) p. 251.
- in limestones in Ottawa Valley, (76-77) p. 282.
- on islands off Partridge Bay, Ont., (76-77) p. 197.
- in rocks of Petite Nation Seignior, Que., (76-77) p. 300.
- at Sydney Harbour, N.S., (76-77) p. 404.
- Syracuse, N.Y., analysis of ophiolite from, (1863) p. 635.
- salt region of vicinity of Onondaga Lake, (66-69) E. p. 218, F. p. 241.
- cost of manufacturing salt at, (66-69) E. p. 224, F. p. 247.
- Syracuse, N.Y.—Cont.
- manufacture of solar salt at, (66-69) E. pp. 227-239, F. pp. 251-264.
- source of salt-brines of, (76-77) p. 238.
- methods of salt manufacture at, description of, (74-75) p. 295.
- Syringopora* Sp., notes on specimens from Fossil Point, Peace River, (75-76) p. 98.
- Syringopora Dalmani*, Billings, wood-cut of, (1863) p. 306.
- Syringopora compacta*, Billings, wood-cut of, (1863) p. 306.
- Syringopora Hisingeri*, Billings, wood-cut of, (1863) p. 366.
- Syringopora Maclurea*, Billings, wood-cut of, (1863) p. 366.
- Syringopora perelegans*, Billings, wood-cut of, (1863) p. 366.
- Syringopora reteformis*, Billings, wood-cut of, (1863) p. 306.
- Syringopora verticillata*, Goldfuss, wood-cut of, (1863) p. 306.
- Syrtsenian deposits of southern New Brunswick, (77-78) pp. 11-22 EE.
- System, use of term in geological reports of Survey, (80-82) p. 48.
- Taberg ore of Sweden, composition of, (66-69) E. p. 251, F. p. 278.
- Table of analyses, of Canadian hematites, (73-74) p. 226.
- of bituminous coals from British Columbia, (76-77) facing p. 470.
- of magnetites, (73-74) p. 211.
- of coals and lignites of N.W.T., (82-84) facing p. 44 M.
- of lignite-coals from British Columbia and North-west Territories, (76-77) facing p. 472.
- of soils, from Ontario and Quebec, (1863) p. 640.
- of water, from mineral springs, (1863) pp. 547-550.
- Table, showing arrival and departure of vessels, at Moose Factory from 1735 to 1880, (79-80) pp. 90-92 C.
- at York Factory from 1789 to 1880, (79-80) pp. 84-88 C.
- giving comparison for strength of brine, from zero to saturation, (66-69) E. p. 242, F. pp. 268-9.
- of comparative sections of Kingston Series, Charlotte, Kings and St. John Counties, N.B., (77-78) p. 6 E.
- showing percentage of water, combustible matter, etc., in coals of Alberta, arranged geographically and geologically, (82-84) pp. 134-135 C.
- giving details of trial of Nova Scotia coal on St. Lawrence steamers, (66-69) E. p. 402, F. p. 446.
- of distances between Smoky River and Quesnel, B.C., (75-76) p. 86.
- of divisions in rocks of St. John and Kings Cos., N.B., (77-78) p. 2 DD.

Table—*Cont.*

- showing equivalency of coal-seams in Cape Breton, N.S., (74-75) p. 250.
 showing equivalency of rocks of British Columbia, (77-78) pp. 172-173 B.
 of formations in Ontario and Quebec, equivalents in Great Britain and U.S. A., (1863) p. 932.
 of geological series treated in Geology of Canada, (1863) p. 20.
 of kames and gravel ridges in southern New Brunswick, (77-78) pp. 13-15 EE.
 of meteorological observations at Moose and York Factories for 1876 and 1878, (79-80) pp. 94-113 C.
 showing opening and closing of Hayes River from 1828 to 1880, (79-80) pp. 82-83 C.
 showing description of salt-works in Ontario, (74-75) pp. 292-293.
 showing system of manufacture, and capacity of salt works in Ontario, (74-75) pp. 294-295.
 showing capital and labour employed in salt manufacture in Ontario, (74-75) p. 296.
 showing quantity and value of salt made in Ontario in 1872-73, (74-75) p. 298.
 showing amount of fine and coarse Canadian salt sold in Canada and United States, (74-75) p. 299.
 showing consumption of wood at salt-works of Ontario, (74-75) p. 306.
 of superficial deposits in Canada, (1863) p. 886.
 showing average temperature of air, on Peace River and in interior of British Columbia for 1875, (75-76) p. 83.
 showing temperatures of water of sea and rivers and of the air, at Hudson Bay, (77-78) p. 26 C.
 of seasonal or periodic events, at Moose Factory from 1878-1880, (79-80) p. 89 C.
 at York Factory from 1875-1879, (79-80) pp. 80-81 C.
 Table Head to North Head, Glace Bay, N.S., section of strata, (74-75) pp. 213-215.
 diagrammatic section of measures, (74-75) facing p. 266.
 Table Head to Bridgeport, N.S., section of strata of Glace Bay Basin, (74-75) pp. 218-220.
 Table Mountain, Pine River Pass, B.C., barometric height, sandstone beds, view from, (75-76) p. 54.
 illustration of, (75-76) facing p. 54.
 sandstones, probably of Fox Hill Group, (75-76) p. 74.
 coal and lignite of, (75-76) p. 82.
 situation and elevation of, (79-80) p. 43 B.
 rocks of, fossils, character of coal, (79-80) p. 117 B.
 Table Point, Nfld., fault at, (1863) p. 292.
 additional information as to rocks of section of, fossils found, (1863) pp. 869-871.
 Table Roulante, Percé, Que., conglomerate rocks of, (1863) p. 438.

- Table-salt, manufacture of, at Clinton and Goderich, Ont., (74-75) p. 279.
 table giving description of factories, (74-75) p. 293.
 Table-top Mountain, Gaspé, rocks of, intrusive granite, (1863) pp. 267-268.
 physical description of, (82-84) p. 9 F.
 Cambrian rocks of, (82-84) p. 15 F.
 description of granite of, (82-84) p. 21 F.
 Tabular view of formations represented in Queen Charlotte Is., B.C., (78-79) p. 48 B.
 Tabusintac River, N.B., peat-bogs of, headwaters referred to, (79-80) p. 6 D.
 Taché River, Stuart Lake, B.C., old route from Fort St. James to Connolly Lake, (79-80) p. 28 B.
 Taché Station, C.P.Ry., granite belt in Huronian near, (80-82) p. 12 C.
 Ta-chick or T. Chaka Lake, B.C., height above sea, (75-76) p. 33.
 prairie flats, botanical notes, (75-76) p. 132.
 open country near, (76-77) p. 44.
 Tacla Lake, B.C., height of, (79-80) p. 24 B.
 Taconic system in Canada, note on comparative table of formations, (1863) p. 934.
 Tadousac, Que., Laurentian limestone near, used for making lime, (1863) p. 804.
 Tah-cho Mountain, B.C., near François Lake, height of, (76-77) p. 48.
 Tahyesco River, B.C., character of country near Salmon River, upper part of valley, (76-77) pp. 30-33.
 rocks of, (76-77) p. 65.
 descriptions of porphyry and altered trap from near Salmon House, (76-77) p. 67.
 Tai-a-taelsli Stream, B.C., draining Tanyabunkut Lake, (76-77) p. 30.
 Tailings from gold mines, loss of gold in, assays of, (70-71) pp. 278-279.
 Tai-uk Brook, B.C., source of, description of valley, (76-77) p. 22.
 Mesozoic rocks on, (76-77) p. 67.
 Talbot River, Ont., exposures of Trenton on, (1863) p. 192.
 Talc, mode of occurrence of in rocks of Canada, (63-66) p. 208.
 with hematite, note on occurrences of, (73-74) p. 223.
 with magnetite, examples of occurrence, (73-74) p. 204.
 localities of occurrence in New Brunswick, (70-71) p. 238.
 in Laurentian and Silurian of Elzevir Tp., Ont., and Pottou Tp., Que., analyses of, (1863) pp. 469-470.
 Talcose rocks in Benacadie Brook, N.S., at John McNeill's, (76-77) p. 410.
 Talcose slates, general description, with analyses of, (1863) pp. 601-602.
 Talon Lake, Ont., crystalline-limestone referred to, (1863) p. 46.
 crystalline-limestone band, (76-77) p. 207.

- Talon Tp., Montmagny Co., Que., masses of serpentine, (66-69) E. p. 137, F. p. 153.
- Tal-un-kwan Island, Q.C.Is., B.C., description of, (78-79) p. 26 B.
- Tamarack, (or larch) notes on northern limit of, (78-79) p. 41 C.
note on northern range of, (79-80) p. 44 C.
- Tamo Lake mines, Portland Tp., Que., description of apatite properties, (82-84) p. 16 J.
- Tamworth, Ont., lowest beds of Trenton Group exposed near, (1863) p. 179.
- Tangier, N.S., description of the Leary lead at, (70-71) p. 267.
drainage works at, (70-71) p. 273.
- Tangier gold-mines, N.S., gold in pyrites of tailings, (70-71) p. 279.
statistics of gold for 1869-71, (71-72) p. 150.
- Tan-oo Indian village, Q.C.Is., B.C., description of, (78-79) p. 169 B.
- Tan-oo Island, Logan Inlet, Q.C.Is., description of, (78-79) p. 25 B.
- Tantree Creek, Nazco River, B.C., basalt in valley of Nazco replaced by sandstone, (75-76) p. 242.
sandstones and conglomerates of Jackass Mt. Group on, (75-76) p. 254.
- Tanyabunkut Lake, B.C., description of with illustration (76-77) facing p. 30.
rocks near, (76-77) p. 64.
- Tarbet road, Victoria Co., N.S., pre-Cambrian rocks on, (82-84) p. 14 H.
- Tar conglomerate in Athabasca River valley, (75-76) p. 92.
see also Tar-sands.
- Tar Islands, Juan Perez Sound, Q.C.Is., B.C., description of, (78-79) p. 22 B.
agglomerates of volcanic series, Triassic, (78-79) p. 60 B.
- Tar Point, Gaspé, Que., anticline in Gaspé sandstones, greenstone dyke holding petroleum, (1863) p. 396.
description of greenstone dyke at, (1863) p. 402.
referred to, (1863) p. 521.
bitumen in trap rocks, petroleum spring near, (1863) p. 789.
trap dyke in Lower Devonian rocks at, (80-82) p. 10 DD.
reference to description of dyke at, petroleum in trap, (80-82) p. 32 DD.
- Tar Point anticline, Gaspé, Que., probable direction and effect of, (1863) p. 410.
continuation of westward, course of, (1863) p. 882.
break in at Douglstown River, trap dyke in, (80-82) p. 10 DD.
- Tar-sands of Athabasca, probable position of, (75-76) p. 93.
age of, mode of occurrence, analysis of, economic uses, (80-82) pp. 3-5 H.
description of exposures, (82-84) pp. 14-26 CC.
local unconformity in, at Crooked Rapid, Athabasca River (82-84) p. 15 CC.
- Tar-sands of Athabasca—*Cont.*
unconformity in, near Fort McMurray, diagrammatic section, (82-84) p. 19 CC.
highest exposure at Drowned Rapid, Athabasca River, (82-84) pp. 14, 15 CC.
at Mountain Rapid, Athabasca River, diagrammatic section, (82-84) p. 18 CC.
on Clearwater River, occurrence of, (75-76) p. 94.
- Tarsprings, on Athabasca River, quoted descriptions of by Sir A. McKenzie, by Sir John Richardson, (73-74) p. 22.
description of, (75-76) p. 92.
- Tartanee, Indian village, Q.C.Is., B.C., description of present village, site of ancient village, (78-79) p. 162 B.
- Tartigo River, Que., black shales of, (1863) p. 262.
fossiliferous rocks at mouth of, (82-84) p. 29 DD.
- Tasoo Harbour, west coast Moresby Island, Q.C.Is., B.C., general description from charts, (78-79) p. 42 B.
- Tas-un-tlat Lake, B.C., description of, morainic islands in, (76-77) p. 21.
- Tatla Lake, B.C., general description of surrounding county, (75-76) pp. 238-239.
exposures of rocks of Cascade Series, (75-76) p. 246.
porphyrite rocks east of, note on, (75-76) p. 251.
and Eagle Lake, level area near, (75-76) p. 237.
- Tatla Lake stream, branch of Chilanco River, B.C., character of county, (75-76) p. 237.
- Tatlayoco Lake, Homathco River, B.C., elevation, high terraces, general description of, (75-76) p. 239.
flora of valley, (75-76) p. 239.
rocks of Cascade Series exposed near north end, (75-76) p. 247.
observations on the porphyrites and diorites of, (75-76) pp. 250-251.
notes on quartzites and conglomerates of, fossils found, thickness of series, (75-76) pp. 253-254.
glacial striation on rocks of, (75-76) p. 261.
- Tatlayoco Lake and Jackass Mt. Group, equivalent age of, (77-78) p. 173 B.
- Tattooed-tent Creek, Assa., origin of name, rock exposures, absence of lignite, (73-74) p. 81.
- Tattooing practised by Haida Indians, B.C. note on, (78-79) p. 108 B.
parts of body colored, (78-79) p. 135 B.
- Ta-tzan-ta-cho-nun Mt., B.C., estimated height of, (76-77) p. 48.
- TAWNY, Mr., referred to, (76-77) p. 152.
- Taxis River, Miramichi River, N.B., Carboniferous rocks at mouth of, (66-69) E. p. 186, F. p. 206.
eruptive rocks in Carboniferous Formation, (70-71) p. 242.
section of slates, etc., strike of rocks, (70-71) p. 244.

- Tazites occidentalis*, Newberry, note on specimens from Roche Percée, Souris River, Assa., (79-80) p. 54 A.
- Tazites Olriki*, Heer, note on specimen from Roche Percée, Souris River, Assa., (79-80) p. 54 A.
- Tazozylon*, characters of, from Vancouver and Queen Charlotte Islands, B.C., (72-73) p. 67.
- Tazus brevifolia*, Nutt., occurrence of in British Columbia, (79-80) p. 175 B.
- Tay River, Nashwasis River, N.B., Carboniferous rocks of, (66-69) E. p. 184, F. p. 203. section of Carboniferous rocks, (66-69) E. pp. 184-185, F. pp. 204-205.
- Tay River band of crystalline-limestone, Ont., characters and distribution, (73-74) p. 106. part of Group V. of Lanark Co., (74-75) p. 151.
- TAYLOR, J. W., number of fossils purchased from, (74-75) p. 11.
- TAYLOR, CAPT., presentation of specimens of anthracite from Long Island, Hudson Bay, (75-77) p. 324.
- Taylor's Island, St. John Harbour, N.B., Huronian rocks of, (70-71) p. 175.
- Taylorville, N.B., extent of Albert shales, oil-shales of, (76-77) p. 370.
- Tearing River, near Cumberland House, Sask., ascent of by A. S. Cochrane, (79-80) p. 10 C.
- Tecumseth Lake, Manitoulin Island, Ont., Hudson River rocks supposed to outcrop at, (1863) p. 218. position of Clinton Formation inferred from red clays, (1863) p. 320. height of, reported outlets of, (1863) pp. 333-334.
- Teeswater, Ont., note on salt-well bored at, (74-75) p. 287. boring at, for salt, (76-77) p. 223.
- Teeswater River, Ont., outcrops of Carboniferous near Greenock Tp., (1863) p. 371. superficial deposits on, (1863) p. 899.
- Telegraph Range, B.C., note on, (76-77) pp. 19-21.
- Telegraph trail, from Quesnel to Fraser Lake, B.C., sketch survey made, (75-76) p. 29. rocks of, (75-76) p. 77. observations on natural history of country, botanical notes, (75-76) pp. 129-137. résumé of observations on climate, soil and flora, (75-76) pp. 134-135. in vicinity of Blackwater River, B.C., (76-77) p. 20. near Ta-chick Lake, B.C., (76-77) p. 44.
- Tellina Grœnlandica*, Beck., wood-cut of right valve, (1863) p. 964.
- Tellina Meekiana*, Whiteaves, description and figure of, (73-74) p. 268.
- Tellina proxima*, Brown, wood-cut of right valve, (1863) p. 964.
- Telmessus serratus*, White, note on specimens from Q.C. ls., (78-79) p. 208 B.
- Temagami Lake, estimated height and area of, (1863) p. 6.
- Temapho Lake, B.C., character of country near, saline ponds, (75-76) p. 240.
- Temiscaming Lake, slate conglomerate and quartzite of, (1863) pp. 50-51. area of Niagara rocks on, fossils of, boulders of Trenton limestone, Huronian rocks of, (1863) pp. 334-336. note on mica-slates of for flagstones, (1863) p. 828. timber of, sugar maple, (72-73) p. 133. and Abitibi Lake, report on country between, by W. McOuat, (72-73) pp. 112-135. *see also* Lake Temiscaming.
- Temiscouata Co., Que.: *for general geology see Part I*, p. 11.
- Temiscouata Lake, Que., height and area of, (1863) p. 4. quartzites of Quebec Group at, (1863) p. 259. exposures and sections of Gaspé Series on, (1863) pp. 419-425. diagram showing contorted slates, (1863) p. 425.
- Temiscouata road, Que., rocks exposed on, (66-69) E. p. 139, F. p. 155.
- Temperance Vale, N.B., section of terrace at, (82-84) p. 40 GG.
- Temperature of air, in British Columbia and in Peace River Pass, table of average for 1875, (75-76) p. 83. on Mount Selwyn, B.C., (75-76) p. 149. observed in Pine River Pass, B.C., by G. M. Dawson, (79-80) p. 46 B. comparison of normal and local for British Columbia, (79-80) p. 9 B. at Hudson Bay, (77-78) p. 26 C. mean of observations at Stuart and Babine Lakes, B.C., (79-80) p. 29 B. mean daily, at York Factory for 1878, (79-80) p. 99 C. *see also* Thermometric observations.
- Temperature of sea, in Hudson Bay, table showing, (77-78) p. 26 C. in Hudson Bay, (79-80) p. 17 C. at west coast of British Columbia, at surface, (79-80) p. 8 B. from Victoria to Queen Charlotte Is., B.C., note on, (78-79) p. 43 B.
- Temperature of water, of Bonaventure River, Gaspé, Que., (82-84) p. 9 E. in rivers entering Hudson Bay, (77-78) p. 26 C.
- Templeton Tp., Ottawa Co., Que., Potsdam band in, outlier of, (1863) p. 94. exposures of hematite in, (63-66) p. 21. apatite-bearing rocks of, (76-77) p. 295. apatite and plumbago in rocks of, (76-77) p. 301. openings for apatite at Perkin's mills, (76-77) p. 303.

- Templeton Tp., Ottawa Co., Que.—*Cont.*
 asbestos in serpentine of limestone bands, (77-78) p. 5 G.
 examples of veins of apatite, wood-cut showing branching vein, (77-78) p. 6 G.
 vein holding large apatite crystals, (77-78) p. 7 G.
 epidote in apatite deposits, (77-78) p. 27 G.
 granite veins cutting apatite veins, (77-78) p. 30 G.
 analysis of chlorite from apatite mines, (77-78) p. 34 G.
 analysis of apatite from Doctor pit, (77-78) pp. 8-10 H.
 notes on apatite mines in, (80-82) pp. 10-12 G G.
 note on deposit of baryte, (80-82) p. 12 G G.
 Temporary houses of Haida Indians, B.C., (78-79) p. 118 B.
 Temporary Indian villages on Q.C. Is., B.C., (78-79) p. 164 B.
 Ten-mile Creek, N.B., small area of Triassic near, (70-71) p. 217.
 Ten-shilling Creek, Hayes River, Keewatin, side-channel of main river, (77-78) p. 8 CC.
 illustration showing, (79-80) facing p. 2 C.
 Tenants Cove, St. John River, N.B., section to Jones Cove, (70-71) p. 70.
 purplish beds in Laurentian, (70-71) p. 118.
 rocks possibly of St. John Group, (70-71) p. 141.
 dolomites for cements, etc., (70-71) p. 232.
 reference to uncertain age of beds, (78-79) p. 8 D.
Tenebrio primigenius, Scudder, description of, from Tertiary beds of Nine-mile Creek, B.C., (77-78) p. 182 B.
 Tennessee, U.S.A., table of rock formations compared with Great Britain and Canada, (1863) p. 932.
 note on comparative table of rock formations of, (1863) p. 935.
 Tentaculite limestone, or lower member of Lower Helderberg Group, characters and distribution of in Ontario, (1863) pp. 353-354.
 Teny Cape mine, Hants Co., N.S., general description of, (82-84) p. 22 L.
 Tephroite, occurrence of in New Jersey, U.S.A., (63-66) p. 206.
Terebratula, Sp., description of specimens from Siguitat Lake and Iltasyouco River, B.C., (76-77) p. 150.
 Terminal moraines, at Strawberry Brook, Thunder Bay district, Ont., (66-69) E. p. 352, F. p. 389.
 above Temapho Lake, Chilcotin River, B.C., (75-76) p. 241.
 see also Moraines.
 Terraces, note on origin of, (71-72) p. 55.
 on Albreda Lake River and Canoe River, B.C., (71-72) p. 38.
 in Athabasca valley, below Burnt Rapid, (82-84) p. 13 CC.
 Terraces—*Cont.*
 on Aroostook River, near St. John River, N.B., section of, (82-84) p. 41 G G.
 near Blackwater Bridge, B.C., illustration, (75-76) facing p. 262.
 in valley of Blackwater River, B.C., (75-76) p. 244.
 at elevations up to 5270 ft., in central British Columbia, (77-78) p. 135 B.
 on coast of British Columbia, near Fort Simpson, (78-79) p. 97 B.
 of general submergence in interior of British Columbia, (77-78) pp. 145-149 B.
 of post-glacial material in southern British Columbia, (77-78) pp. 142-149 B.
 in valleys of southern British Columbia, note on, (82-84) pp. 33-35 B.
 at Cluscius, B.C., (76-77) p. 24.
 on eastern slope of Coast Range, B.C., (77-78) p. 148 B.
 in Coldwater River valley, B.C., elevations of, (77-78) p. 146 B.
 in Eu-chen-i-ko valley, B.C., (76-77) p. 22.
 near François Lake, B.C., (76-77) p. 47.
 of gravel in valley of Fraser River, B.C., from Hope to Lytton, (71-72) p. 23.
 near Soda Creek, (75-76) p. 235.
 elevations of, (77-78) p. 148 B.
 of Fraser and Thompson Rivers, B.C., Indian implements and elephant remains found in, (82-84) p. 37 B.
 on Green Mountains, Vermont, of stratified drift, elevation of, (1863) p. 929.
 on Il-ga-chuz Mt., B.C., view from, toward high peaks of Il-ga-chuz Mts., (76-77) facing p. 38.
 at high elevations on eastern edge of Rocky Mountains, (82-84) p. 146 C.
 of Iron Mountain, B.C., elevations of, (77-78) p. 145 B.
 in vicinity of Kamloops Lake, B.C., elevations of, (77-78) p. 148 B.
 on Kenogami River, Ont., (70-71) p. 340.
 at Keswick, N.B., section and wood-cut diagram of, (82-84) pp. 39-40 G G.
 of Lake St. John, Que., highest at south-east side of lake, (82-84) p. 17 D.
 on Lower Pine River, Peace River, material of drift in, (79-80) p. 139 B.
 on Manitoulin Islands, Ont., (63-66) p. 178.
 and beaches on Montreal Mt., Que., heights of, (1863) p. 918.
 on Nacawicac River, N.B., section of, (82-84) p. 40 G G.
 of the Nashwaak River, N.B., sections of, (82-84) p. 39 G G.
 and kames in New Brunswick, working theory of origin of, (82-84) pp. 41-42 G G.
 in northern New Brunswick, note on, (79-80) p. 43 D.
 of Saxicava sand, in southern New Brunswick, (77-78) p. 31 EE.
 and drift material in Nicola Valley, B.C., (77-78) p. 146 B.
 on North Saskatchewan River, Victoria to Fort à la Corne, (73-74) pp. 50-51.
 at Rocky Mt. House, (73-74) p. 46.

Terraces—Cont.

- in river valleys on plains of North-west Territories, mode of formation, (74-75) p. 47.
 of white silt on Okanagan Lake, B.C., elevation of, (77-78) p. 144 B.
 in vicinity of Okanagan Lake, B.C., elevations of, (77-78) p. 147 B.
 on Okanagan Mountain, B.C., elevations of, (77-78) p. 146 B.
 in Ontario, ancient beaches and ridges, (1863) pp. 910-915.
 in valley of Peace River, above cañon, (75-76) p. 45.
 of clay and sand in valley of Pic River, Ont., fresh-water shells in, (70-71) pp. 327-328.
 in valley of Qu'Appelle River, Assa., at Qu'Appelle Lakes, (73-74) p. 72.
 in valley of Restigouche River, N.B., (79-80) p. 18 D.
 of St. John River, N.B., material of, relation to velocity of streams, sections at various places, (82-84) pp. 27-37 GG.
 of tributaries of St. John River, N.B., sections of, (82-84) pp. 37-42 GG.
 on St. Lawrence River, below Quebec, mammal remains found in, (1863) pp. 921-922.
 in valley of Similkameen River, B.C., (77-78) p. 147 B.
 and detrital deposits on Skeena River, B.C., (79-80) p. 136 B.
 at Sault Ste. Marie, Ont., note on character of, (1863) p. 906.
 on South Similkameen River, B.C., (77-78) p. 49 B.
 in valley of Sus-kwa River, B.C., branch of Skeena River, (79-80) p. 23 B.
 at Tatlayoco Lake, B.C., elevations of, (75-76) p. 239.
 on Thompson and Bonaparte rivers, B.C., elevations and composition of, (77-78) p. 149 B.
 in Thunder Bay and Nipigon districts, Ont., (66-69) E. pp. 353-354, F. p. 391.
 near Toot-i-ai Mountain, B.C., (76-77) p. 41.
 on Upsalquitch River, N.B., (79-80) p. 18 D.
 in valley of Whipsaw Creek, B.C., (77-78) p. 49 B.
 Terrace Bay, Lake Superior, copper-ores of, (1863) p. 706.
 Terrace Cove, Lake Superior, molybdenite reported in vein at, (1863) p. 503.
 Terrace deposits of valleys in New Brunswick, general arrangement and fossils in beds of, note on, (82-84) p. 41 GG.
 Terrace Mountains, Magdalen River, Gaspé, rocks of Lower Devonian at, (80-82) p. 9 DD.
 Terre Blanche Rapid, Clearwater River, Atha., massive Devonian rocks at, (82-84) p. 26 CC.
 Terrebonne, Que., exposures of Trenton Group near, (1863) p. 148.

Terrebonne, Que.—Cont.

- deposit of pyrites in, referred to, (1863) p. 513.
 building stone in Chazy Formation at, (1863) p. 818.
 Terrebonne Co., Que., map showing distribution of Laurentian rocks in, scale 7 miles = 1 in., (1863) Atlas.
 anorthosite rocks of New Glasgow, note on, (1863) p. 34.
 note by H. G. Vennor on position of limestone bands of, and area of Labradorite rocks, (79-80) p. 3.
for general geology see also Part I., p. 11.
 Tertiary Bay, Labrador coast, marine clays found in, (1863) p. 924.
 list of post-Tertiary fossils found at, (1863) pp. 926-928.
 Tertiary clay-ironstones, extract from G. M. Dawson's report on, (73-74) p. 240.
 Tertiary coal-bearing rocks of B.C., note on, (76-77) pp. 125-127.
 Tertiary coal measures, diagrammatic section in Coal Gully, Nicola River, B.C., (77-78) facing p. 174 B.
 Tertiary fossil insects, in beds at Quesnel, B.C., by S. H. Scudder, (75-76) pp. 266-280.
 additional notes on, by S. H. Scudder, (76-77) pp. 457-464.
 from southern British Columbia, descriptions of, (77-78) pp. 175-185 B.
 Tertiary fossil plants, from southern British Columbia, list by J. W. Dawson, (77-78) p. 186 B.
 from rocks at Quesnel, B.C. (71-72) p. 59.
 Tertiary fossils, from John River, Sooke district, B.C., (76-77) p. 192.
 from Quatsino Sound, Vancouver Island, B.C., discovery of, (73-74) p. 265.
 list of from Skon-un Point, Graham Island, Q.C.Is., B.C., (78-79) p. 87 B.
 Tertiary mineral-springs, evidence of, at Vermilion cliff, Tulameen River, B.C., (77-78) p. 131B.
 Tertiary, Miocene, of Brandon, Vt., note on deposits, (1863) p. 929.
 Tertiary period, note on conditions on Pacific coast during, (78-79) p. 47 B.
 Tertiary rocks, area covered by in British Columbia, (76-77) p. 75.
 sources of igneous rocks of, in British Columbia, (76-77) p. 75.
 of British Columbia, differences in age and composition, insect remains, Miocene, (77-78) pp. 166-167 B.
 of Babine Lake, B.C., note on amygdaloids, (79-80) p. 106 B.
 in British Columbia between Fraser River and Coast Range, (76-77) pp. 75-83.
 at Burrard Inlet, B.C., (76-77) pp. 188-190.
 of southern British Columbia, (77-78) pp. 112-133 B.

- Tertiary rocks—*Cont.*
 of southern British Columbia near International boundary, description of, (82-84) pp. 32-33 B.
 general note on volcanics of, in British Columbia, (76-77) p. 92.
 fragments of older rocks included, description and illustration, (77-78) p. 118 B.
 in Cypress Hills, Assa., discovered, (82-84) p. 3.
 of Fraser and François Lakes, B.C., (76-77) p. 83.
 of Graham Island, Q.C.Is., B.C., area of, lignite and amber, fossils in, (78-79) pp. 84-89 B.
 of Hat Creek, B.C., with section, (77-78) pp. 120-121 B.
 of Nicola and Coldwater rivers, B.C., (77-78) pp. 122-128 B.
 of North-west Territory, boundary of indefinite, (73-74) p. 84.
 basin of north of Osoyoos Lake, B.C., diagrammatic section, (77-78) p. 174 B.
 volcanic of country west of Parsnip River, B.C., (75-76) p. 70.
 of Upper Salmon River, B.C., (77-78) pp. 128-129 B.
 volcanic of Skeena and Naas rivers, (75-76) p. 70.
 of Sooke, B.C., (76-77) pp. 190-192.
 in shallow synclines in valley of Thompson River, B.C., (77-78) p. 15 B.
 of Vermilion Forks, B.C., organic remains, first vertebrates found in, (77-78) p. 129 B.
- Tertiary and Mesozoic volcanic rocks of British Columbia, difficulty in separating, (76-77) p. 92.
- Teschentite, rocks of dykes at Montreal resembling, (77-78) p. 45 G.
- Tête à Gauche Falls, N.B., illustration of, (79-80) frontispiece to Part D
 note on manganese deposits of, (79-80) p. 45 D.
- Tête à Gauche River, N.B., reddish conglomerate of with Silurian corals, (79-80) p. 18 D.
 character of Cambro-Silurian slates of, (79-80) p. 23 D.
 description of exposures on, (79-80) pp. 24-25 D.
- Tête Jaune Cache to Grand Forks of Fraser River, journal of A. R. C. Selwyn (71-72) pp. 40-41
 width of Fraser River at, exposures, of rocks, (71-72) p. 41.
- Tetradium fibratum*, Safford, wood-cuts of, (1863) p. 139.
- Tetrahedrite, from Hartford mine, Que., assay of, (77-78) p. 52 G.
- Te-tzal-to, hill on shores of Babine Lake, height of, (79-80) p. 27 B.
- Texada Island, Strait of Georgia, B.C., crystalline-limestones and epidotic and dioritic rocks of, (73-74) p. 99.
- Texada Island, Strait of Georgia, B.C.—*Cont.*
 note on iron-ores of, mode of occurrence, thickness of beds, (73-74) pp. 99-100.
 facility for shipment of ores, harbours, etc., (73-74) p. 100.
 value of marbles of north end, for building stones, (73-74) p. 102.
 note on occurrence of magnetite on, (73-74) p. 206.
 analysis of iron-ore from, (76-77) pp. 129, 475.
 coal-bearing rocks on, (76-77) p. 169.
- Thames anticline, continuation of Cincinnati anticline in Ontario, (63-66) p. 257.
- Thames River, Ont., fluvatile deposits, land and fresh-water shells in, (1863) p. 913.
- Thamesville, Ont., limonite indicated in, (1863) p. 683.
 wells at, (63-66) p. 247.
- Thames well, Bothwell, Ont., record of, (63-66) p. 247.
 analysis, and character of water from, (63-66) pp. 273-276.
- 'The back' kame on watershed between St. John River and St. Croix River, N.B., description of, (82-84) p. 25 GG.
- 'The Ledge,' metamorphic sandstones, St. Croix River, N.B., (76-77) p. 327.
- 'The Quinze,' see Lac des Quinze.
- Thermal waters, note on temperatures of mineral springs in Canada, (1863) p. 564.
- Thermometric observations on Lakes Mistassini and St. Maurice and Gatineau River, Que., (70-71) pp. 304-305.
- Thessalon, Ont., description of Huronian rocks with section on Thessalon River and vicinity, (1863) pp. 55-58.
 fault in Huronian rocks at, description of, of, (1863) p. 61.
- Thessalon Island, Lake Huron, fossils of Birdseye and Black River Formation found on, (1863) p. 195.
- Thessalon River, Ont., width of gneissic band near, (1863) p. 48.
 section of Huronian rocks on, (1863) pp. 55-57.
 note on general structure, (1863) p. 61.
 honestones in Huronian rocks of Ottetail Lake, (1863) p. 809.
 the Huronian east of, additional notes on, (1863) pp. 841-844.
 clay containing nodules, Algoma sand of, (1863) pp. 906-907.
 map of Huronian area, scale 8 m. = 1 in., (1863) Atlas.
 explorations near, in 1876, (76-77) p. 194.
- Thetford Tp., Que., copper-ore localities in, (63-66) p. 320.
 note on asbestos mines in, (80-82) pp. 6-7 GG.
- Thetis Island, Stuart Channel, Vancouver Island, B.C., undulations in rocks of, (71-72) p. 87.
 rocks at, (76-77) p. 183.

- Thetis Cove, Gold Harbour, Moresby I., Q. C. Is., B.C., (78-79) p. 41 B.
- Thibert Creek, B.C., situation of gold-workings on, yield of, (76-77) p. 139.
- Thickness of agglomerate series in the Cretaceous of Skidegate Inlet, B.C., (78-79) p. 69 B.
- of Anticosti Group, estimates of at east and west end of Anticosti Island, (1863) p. 309.
- of Belly River Series, (82-84) pp. 116-117 C. and Cretaceous and Laramie near Milk River, Alta., (82-84) pp. 124-125 C.
- of Carboniferous rocks in southern Cape Breton Island, N.S., (79-80) p. 86 F. at Flat Head, Richmond Co., N.S., (79-80) p. 92 F.
- of Chazy on Montreal Island and estimate of total thickness of formation, (1863) p. 126.
- of Clones coal-seams in New Brunswick, probable yield from, (72-73) p. 224.
- of coal-bearing series in Comox basin, B.C., (72-73) p. 51.
- of coal-seam mined at Barrasois mines, N.S., (72-73) p. 252.
- of conglomerates of Cretaceous of Q. C. Is., B.C., (78-79) pp. 65, 71 B.
- of conglomerates of Carboniferous Formation on Long Creek, St. John River, N.B., (66-69) E. p. 181, F. p. 200.
- of Corniferous Formation in Ontario and Michigan, (1863) p. 364.
- of Cretaceous on Athabasca River, estimate of, (82-84) p. 16 CC.
- of Devonian rocks in Richmond and Guysborough Cos., N.S., (79-80) p. 33 F.
- of drift-deposits on western plains, general note on, (82-84) p. 140 C.
- of Gaspé sandstone, given in section, (1863) p. 394-396.
- of Gaspé limestones on Dartmouth River, above Mt. Serpentine, Que., (1863) p. 881.
- of gold series in Nova Scotia, according to Campbell, (70-71) p. 263.
- of Guelph Formation at Breslau, Ont., estimate of, (1863) p. 338.
- of Hamilton Formation, estimate of, (1863) p. 387.
- of Harbour coal-seam, International mine, N.S., (72-73) p. 257.
- of Huronian in district east of Thessalon, Ont., (1863) p. 843.
- of Laramie rocks exposed on Waterton, River, Alta., (82-84) p. 66 C.
- on Bow River, note on, (82-84) p. 81 C.
- of Laurentian rocks in Argenteuil Co., Que., p. 45.
- of Lower Shale and Sandstone Series in Queen Charlotte Islands, B.C., (78-79) p. 69 B.
- of Medina Formation exposed on western end of Lake Ontario, (1863) p. 312.
- and Clinton at Cape Commodore, Georgian Bay, Ont., (1863) p. 318.
- of Middle and Upper Carboniferous in Queens and Sunbury Cos., N.B., (72-73) pp. 221-225.
- Thickness.—*Cont.*
- of Middle Carboniferous in New Brunswick, note on, (79-80) p. 5 D.
- of Millstone Grit at Mira Bay, N.S., (74-75) p. 180.
- of metamorphic series in British Columbia, near International boundary, (82-84) p. 32 B.
- of Niagara Formation, in New York State, U.S.A., (1863) p. 321.
- in basin of Lake Temiscaming, Ont., (1863) p. 335.
- on Manitoulin Island, Ont., (63-66) p. 174.
- of Onondaga Formation, note on, (1863) p. 346.
- of pre-Silurian rocks of southern part of Albert Co., N.B., (77-78) p. 6 D.
- of Porcupine Hill beds, Alta., (82-84) p. 96 C.
- of Pierre shales in Alberta, (82-84) p. 115 C.
- of Potsdam sandstone, west of Laurentian barrier of Thousand Islands, Ont., (1863) p. 97.
- and Quebec Group, estimated, on the Strait of Belle Isle and Newfoundland coasts, (1863) p. 879.
- of St. John Group in New Brunswick, (70-71) p. 135.
- of Saxicava sand in southern New Brunswick, (77-78) p. 32 EE.
- of Trenton Formation at Ottawa, note on, (1863) p. 166.
- of Water-lime Group in Ontario, (1863) pp. 353-354.
- Thigh Hills, Alta., hard clay of hills, (82-84) p. 28 C.
- Third East Fork, Bonaventure River, Gaspé, Devonian rocks on, double syncline, (82-84) p. 22 E.
- Third Gold Brook, Middle River, N.S., schists and gneisses of, (82-84) p. 29 H.
- Third Loch Lomond Lake, N.B., dip of Primordial slates on, note on fossiliferous beds, (77-78) p. 30 DD.
- Third prairie-steppe, N.W.T., composition of drift, (74-75) p. 41.
- Third seam, Albion mines, Pictou, N.S., (66-69) E. p. 68, F. p. 76.
- outcrops westward, (66-69) E. p. 76, F. p. 84.
- Thick-wood Hills, Sask., character of country, (73-74) p. 33.
- Thomas Head, Janvrin Is., N.S., section of Carboniferous rocks of, (79-80) pp. 58-59 F.
- THOMPSON, A., reports on gas trials of Pictou coals, (66-69) E. pp. 434-437, F. pp. 484-489.
- Thompsonite, found at Gargantua and Mainmaine Capes, Lake Superior, (1863) p. 481.
- in veins at Long Point, Lake Nipigon, Ont., (66-69) E. p. 345, F. p. 382.

- Thompson River, B.C., soil of valley between Spence's Bridge and Kamloops, (71-72) p. 26.
 Lower Cache Creek Series above Spence's Bridge, (71-72) p. 61.
 value of valley for agricultural purposes, (71-72) p. 70.
 similar in character to Nicola River, terraces on, (75-76) p. 122.
 gold on, (76-77) p. 142.
 copper from, (76-77) p. 148.
 description of valley, including the lakes, (77-78) pp. 11-26 B.
 description of country south of, (77-78) p. 27 B.
 older volcanic rocks near Savona's Ferry, (77-78) p. 83 B.
 elevations of terraces on, composition of, (77-78) p. 149 B.
 moraine at "Eighty-nine-mile stable," (77-78) p. 150 B.
 first gold found in British Columbia on, (77-78) p. 154 B.
 elephant remains reported in gravel terrace on, (82-84) p. 37 B.
- Thompson road, Petersville, N.B., traverse westward from, on Upper Silurian, (75-76) pp. 357-358.
- Thompson Tp., Ont., Huronian limestone band crosses, (1863) p. 841.
 copper-ores found in near line of Patton Tp., (1863) p. 843.
- Thompson's farm, St. Stephen, N.B., nickel and cobalt in pyrrhotite from, (80-82) p. 16 H.
- Thompson's Point, Cockburn Island, Ont., Pentamerus beds, (66-69) E. p. 115, F. p. 129.
- Thorah Tp., Ont., exposures of Trenton in, (1863) p. 193.
- THORBURN, J., date of appointment as librarian, (80-82) p. 28.
- Thorn, note on northern limits of, in Canada, (79-80) pp. 54-55 C.
- Thorn Brook, Canaan River, N.B., hematite nodules on, (72-73) p. 228.
 granite exposed near mouth of, (75-76) p. 366.
 micaceous sandstone and argillites in Have-lock Tp., (75-76) p. 366.
- Thorold, Ont., character of grey-band of sandstone, section of Clinton strata at Goode-now's quarry, (1863) p. 313.
 sections of Niagara Formation on Welland Canal, fossils found, (1863) pp. 322-323.
 analysis and strength of cement from, (1863) p. 806.
 clay-deposits of, (1863) p. 902.
- Thoroughfare, meaning of term used in western New Brunswick, (82-84) p. 11 GG.
- Thoroughfare, The, Lake Utopia to Magaguadavic River, Mascarene Series on, note on granite north of, (70-71) p. 186.
- THORPE, T. E., analysis of hematite from East River, Pictou, N.S., (73-74) p. 226.
 analysis of spathic-ore from Sutherland River, N.S., (73-74) p. 239.
- Thousand Islands, Ont., note on cause of formation of, (1863) p. 10.
 boundary of Laurentian in district near, (1863) p. 47.
 note on deposit of tourmaline on, (1863) p. 492.
- Thracia, sp., from below Hudson's Hope, Peace River, notes on, (75-76) p. 96.
- Three A. Mine, Thunder Bay, Ont., native silver, vein cutting Huronian, (72-73) p. 109.
- Three-bridge Brook, Clarendon Tp., N.B., pre-Carboniferous rocks of the dark argillite series, (70-71) p. 192.
- Three Brooks, North-east Margaree River, N.S., pre-Cambrian rocks of, (82-84) p. 27 H.
- Three Brothers Mountain, Gaspé, Que., Devonian and Silurian rocks of intimately associated, (82-84) p. 22 E.
- Three Buttes, Montana, general description of, heights, etc., (82-84) pp. 16-18 C.
- Three Discharges, Kaministiquia River, Ont., exposure of Huronian at, description of, thickness of slates, (1863) p. 64.
- Three-foot coal-seam, section of on Little Bras d'Or Lake, N.S., (74-75) p. 238.
- Three-and-a-half-foot seam, Pictou coal-fields, N.S., outcrop of, (66-69) E. p. 83, F. p. 93.
- Three-fork River, Wabigoon Lake, Ont., diorite rocks of, (80-82) p. 14 C.
- Three Islands, of Grand Manan Is., N.B., felsites and crystalline limestones of, (70-71) p. 111.
- Three Island Cove, St. Peter Bay, N.S., red conglomerate, Devonian, (77-78) p. 17 F.
- Three-mile Creek, Kamloops Lake, B.C., description of trail along, (77-78) p. 35 B.
- Three Mountains, Rouge River, Que., garnets in gneiss at, (1863) p. 24.
- Three Rivers, Que., longitude of, (1863) p. 9 Atlas.
 note on examination of gas-well near, (82-84) p. 13.
- Three-tree Creek, Sunbury Co., N.B., sandstone quarries at, (70-71) p. 234.
 fossiliferous sandstones on, (72-73) p. 221.
 sandstones suitable for building stone, (72-73) p. 229.
- Thumb-cap Island, near Casco Bay, N.B., conglomerate of, (70-71) p. 91.
- Thunder Bay, Lake Superior, outline of gneiss areas of Lake Superior near, (1863) p. 48.
 Huronian rocks of, note on distribution, (1863) p. 63.
 description of lower group of Upper Copper-bearing rocks, (1863) pp. 67-70.
 note on columnar trap in Upper Copper-bearing Series, position in series, thickness, (1863) pp. 69-70.
 distribution of lower part of Upper Copper-bearing rocks or Animikie, contact with Huronian, (1863) p. 77.
 distribution of upper part of Upper Copper-bearing rocks on, (1863) pp. 77-78.

- Thunder Bay, Lake Superior—*Cont.*
 note on metalliferous veins at, (1863) p. 707.
 reference to veins carrying barytes, (1863) p. 771.
 peninsula south of Black Bay, rocks of, (66-69) E. p. 331, F. p. 366.
 traverse of shore from Current River to Amethyst Harbour, (72-73) p. 90.
 analysis of magnetite from, (80-82) p. 8 H.
 to Fort Garry, summary of exploration by R. Bell and A. R. C. Selwyn, (72-73) p. 1.
 breadth of Huronian band on, (72-73) p. 107.
- Thunder Bay District, Ont., general description, (66-69) E. pp. 313-364, F. pp. 345-403.
 description of rocks in valley of Kaministiquia River, (66-69) E. p. 324, F. p. 358.
 note on glacial striae and grooves in, (66-69) E. p. 352, F. p. 389.
 list of glacial striae noted in, (66-69) E. p. 351, F. p. 388.
 economic minerals of, (66-69) E. pp. 357-363, F. pp. 395-403.
 mineral-veins of, (66-69) E. p. 357, F. p. 395.
 building stones of, (66-69) E. p. 363, F. p. 401.
 report on mines of, by R. Bell, (72-73) pp. 90-92.
for general geology see also Part I., p. 15.
- Thunder Bay mine, Ont., rocks at, (66-69) E. p. 326, F. p. 359.
 extent of working at, the silver-bearing veins of, (66-69) E. p. 361, F. p. 400.
- Thunder Bay Mining Co., statistics of output for 1869, (71-72) p. 147.
- Thunder Cape, Thunder Bay, extent of lower part of Upper Copper-bearing rocks, (1863) p. 77.
 distribution of upper part of Upper Copper-bearing rocks eastward from, (1863) pp. 77-86.
 veins of calc-spar at, (1863) p. 707.
 rocks of and on peninsula behind, (66-69) E. p. 331, E. p. 366.
- Thunder Hill, Man., position of, (74-75) p. 33.
 height of above river, Cretaceous rocks, kettle-holes, (74-75) p. 59.
 section of drift in Swan River near, (74-75) p. 63.
 Cretaceous rocks, fossils of, (74-75) p. 64.
- Thurlow Tp., Ont., bog iron-ore from lot 16, R. IX., analysis of, (78-79) p. 15 H.
- Thuja gigantea*, Nutt., size of trees, photographs of, (71-72) p. 70.
 note on occurrence and size of, in British Columbia, (79-80) pp. 170-171 B.
- Thuja occidentalis*, Linn., note on northern range of, in Canada, (79-80) p. 47 C.
- Ticonderoga, N.Y., apatite in quartz at, (63-66) p. 203.
 analysis of graphite from, (76-77) p. 506.
 method employed in dressing graphite at, (82-84) p. 31 J.
- Tickel Inlet, Mal Bay, Gaspé, Que., exposures of Bonaventure Formation on, (1863) p. 405.
- Tickel Inlet, Mal Bay, Gaspé, Que.
 note on rocks of, (1863) p. 437.
- Tidal currents, in Bay of Fundy, character of bottom formed, (77-78) p. 21 EE.
 in Darwin Sound, Q.C.Is., B.C., (78-79) p. 23 B.
 around Queen Charlotte Islands, B.C., note on, (78-79) p. 42 B.
- Tidal erosion, in Bay of Fundy, note on, (77-78) pp. 18-22 EE.
- Tides, at Fort Chimo, Ungava River, Hudson Strait, (82-84) p. 16 DD.
 in Hudson Bay, note on (79-80) p. 30 C.
 in Masset Sound, Q.C.Is., B.C., irregularity of, (78-79) p. 37 B.
 at mouth of Nelson River, Hudson Bay, effect of winds on, part of river affected by, (77-78) p. 10 CC.
- Tilia Americana*, Linn., note on northern limit of, in Canada, (79-80) p. 51 C.
- Till, definition of term, (82-84) p. 7 GG.
 or boulder-clay of southern New Brunswick, (77-78) pp. 1-10 EE.
 general distribution of, in western New Brunswick, (82-84) pp. 11-14 GG.
 on St. John River, N.B., at Grand Falls, sections, modifications of, (82-84) pp. 13-14 GG.
- Tilsonburg, Ont., oil-wells reported sunk at, (1863) p. 523.
 note on oil-borings at, (1863) p. 787.
 records of wells at, (63-66) p. 250.
 history of borings at, (66-69) E. p. 217, F. p. 239.
 deepening of salt-well at, (74-75) p. 287.
- Timber, of Athabasca Valley, near Fort Assiniboine, (79-80) p. 94 B.
 in valley of Bonaventure River, Gaspé Que., (82-84) p. 8 E.
 of central British Columbia, note on, (77-78) p. 7 B.
 of southern part of Cape Breton Island, N.S., note on, (79-80) pp. 114-115 F.
 of northern part of Cape Breton Island, N.S., note on, (82-84) p. 83 H.
 of Churchill River, Keewatin, (78-79) p. 21 C.
 near Comox, Vancouver Island, B.C., (71-72) p. 95, and, (72-73) p. 64.
 in vicinity of Cross Lake, Nelson River, Keewatin, (79-80) p. 6 C.
 of East Main coast, Hudson Bay with northern limit of trees, (77-78) p. 25 C.
 scarcity of, on trail from Fort Garry via Carlton to Edmonton, Alta., (73-74) p. 59.
 of district around Gods and Island Lakes, Keewatin, (78-79) p. 33 C.
 of basin of Hudson Bay, note on, (79-80) p. 32 C.
 of valley of Kenogami River, Ont., (70-71) p. 340.
 of Lake Abitibi and head-waters of Ottawa River, (72-73) p. 132.
 from Lac des Mille Lacs to Lake Winnipeg, (72-73) p. 16.

Timber—*Cont.*

- of Lake Nipigon, Ont., forest trees, (66-69) E. p. 357, F. p. 394.
- of Lake Winnipeg and Nelson River, basins, (77-78) pp. 28-29 CC.
- near Laskleek Bay, Q.C.Is., B.C., (78-79) p. 26 B.
- of Magdalen Islands, Que., note on, (79-80) p. 10 G.
- of Naden Harbour, Graham Island, Q.C.Is., B. C., importance of, (78-79) p. 38 B.
- of lower part of Nelson River, Keewatin, (77-78) p. 13 CC.
- of Pic River and Long Lake, Algoma, (70-71) p. 350.
- of valley of Pine River, Nelson River, Sask., (79-80) p. 8 C.
- of Porcupine Mts., Man., on face of escarpment, (74-75) p. 60.
- of Queen Charlotte Islands, B.C., general note on species, (78-79) p. 42 B.
- of north shore, St. Lawrence River, Que., (66-69) E. p. 309, F. p. 341.
- of Saskatchewan River, near Pas Mission, (79-80) p. 10 C.
- between Shell River and Big Boggy Creek, Man., (74-75) p. 30.
- of valleys in Shickshock Mountains, Que., note, (82-84) p. 10 E.
- of shores of Skincuttle Inlet, Q.C.Is., B.C., (78-79) p. 18 B.
- of vicinity of Skidegate Inlet, Q.C.Is., B.C., (78-79) p. 31 B.
- of Swan River valley, Man., (74-75) p. 35.
- on Sweet Grass Hills, Montana, (82-84) p. 17 C.
- of Vancouver Island, B.C., note on varieties and sizes, (73-74) p. 102.
- Timber Brook, North River, Victoria Co., N.S., pre-Cambrian rocks of, (82-84) p. 13 H.
- Timbering in mines, Cariboo, B.C., cost and character of, (76-77) p. 110.
- Timmins Brook, Inverness Co., N.S., Lower Carboniferous rocks of, (82-84) p. 41 H.
- Tin, probable presence of, in mica-schists of Algoma, (70-71) p. 348.
- note on Dr. Gesner's supposed discovery of, on Pokiok River, N.B., (82-84) p. 29 G.
- oxide of discovered in specimens from Madoc and Marmora. (71-72) p. 131.
- reported discovery of on Pollet River, N.B., (77-78) p. 12 D.
- Tin Cove, Scatarie Island, N.S., feldspar of, (77-78) p. 7 F.
- Tingwick Tp., Que., black slates of lower part of Quebec Group exposed in, (1863) p. 241.
- serpentine diallage rock of, (1863) p. 253.
- copper-ore localities in, (63-66) p. 314.
- to Shawenegan, colored section, (1863) Atlas.
- Tin-in-ow-e Inlet, Q.C.Is. B.C., latitude observation at head of, (78-79) p. 235 B.
- Tinneh myths, general resemblances among, (78-79) p. 151 B.

- Titanic iron-ore or ilmenite, age of, (73-74) p. 227.
- note on deposits of, in Canada, (66-69) E. p. 253, F. p. 280.
- smelting of, in Canada and Sweden compared, (73-74) p. 250.
- smelted at Norton, Eng., quality of bog-ore used with, (66-69) E. p. 253, F. p. 280.
- of Bourget Tp., Que., Saguenay region, (82-84) p. 8 D.
- from Brome and Sutton Tps., Que., analyses of, (73-74) p. 228.
- experience of working at Lake Champlain, Que., (66-69) E. p. 252, F. p. 280.
- partial analysis of, from Leeds, Lanark and Frontenac Cos., Ont., (71-72) p. 123.
- experience of working in Norway and Sweden, (66-69) E. p. 252, F. p. 279.
- of Shawenegan and Ste. Julienne, Que., results of analysis, (76-77) p. 474.
- Titaniferous iron-sand, in Middle River, N.S., referred to, (82-84) p. 92 H.
- Titanic acid, occurrence of, in limestones of Granby and Rougemont, Que., (1863) p. 502.
- Titanite, of apatite-bearing rocks of Ottawa Co., Que., (77-78) p. 27 G.
- crystals noted at Smart's mine, Sebastopol, Ont., (82-84) p. 7 L.
- localities of occurrence in Wakefield, Que., (80-82) p. 13 GG.
- Titanium, occurrences of in Canada with analyses, (1863) 501.
- in rocks of Quebec Group, shown by analyses, (1863) p. 614.
- compounds of used for pigments and colouring materials, preparation of, (1863) p. 753.
- in iron-ores of specular schists of Eastern Townships, Que., (1863) p. 681.
- opinion of Mr. Bannerman on effect of, in iron, (66-69) E. p. 251, F. p. 277.
- note on ores of, uses of in arts and manufactures, (1863) p. 753.
- Ti-tul Island, Logan Inlet, Q.C.Is., B.C., description of, (78-79) p. 25 B.
- limestone of, (78-79) p. 61 B.
- Titus's mill, Hammond River, N.B., petrosilex beds at, characters of, (77-78) p. 8 DD.
- Tl-ell River, Graham Island, Q.C.Is., description of, (78-79) p. 33 B.
- large old Indian house at, (78-79) p. 165 B.
- Tlikinool. Indian name of village at Cumshewa, B.C., description of, (78-79) p. 168 B.
- Tobacco, tradition among Haida Indians as to origin of, (78-79) p. 152 B.
- variety cultivated in Queen Charlotte Islands, (78-79) p. 114 B.
- Tobacco Plains, Kootenay River, B.C., rocks of mountains on either side, (82-84) pp. 26-27 B.
- Tobermorey Harbour, Grey Co., Ont., fossils of Niagara Formation found at, (1863) p. 333.

- Tobique River, N.B., explorations of L. W. Bailey, in 1864, (70-71) p. 24.
 general description of, (66-69) E. p. 200, F. p. 222.
 rocks of upper part, above forks, (66-69) E. p. 204, F. p. 224.
 limestone and gypsum deposits of, (66-69) E. p. 208, F. p. 231.
 supplementary report on, (70-71) p. 250.
 general description of, (79-80) p. 2 D.
 Silurian rocks of, Lower Carboniferous outlier on, (79-80) pp. 14-15 D.
 gypsum-deposits, mill for grinding gypsum, (79-80) p. 46 D.
 drift-dammed channel at The Narrows, (82-84) p. 14 GG.
- Tokovaia, Russia, analysis of fluor-apatite from, (77-78) p. 11 H.
- TOLMIE, W. F., estimate of number of inhabitants on Queen Charlotte Islands, B.C., obtained by, (78-79) p. 172 B.
- Tolmie Channel, B.C., section of rocks on, (74-75) p. 75.
- Tombs of medicine-men, of the Haida Indians, description of, (78-79) p. 123 B.
- Tompkins Brook, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 10 H.
- Toms Brook, Richmond Co., N.S., folded limestone, section of, (77-78) p. 21 F.
- Tongass, Dixon Entrance, B.C., note on meteorological observations taken at, heavy rainfall, (79-80) pp. 6-7 B.
- Tongue Point, Comox, B.C., rocks near, (76-77) p. 167.
- Toot-i-ai or Fawnies Mt., B.C., illustration showing, (76-77) facing p. 40.
- Topographical features, of region in vicinity of Bow and Belly Rivers, (82-84) pp. 6-13 C.
 of Cape Breton Co., N.S., (77-78) p. 2 F.
 of Grand Manitoulin Islands, Ont., (63-66) p. 167.
 of country surrounding Long Lake, Algoma, (70-71) p. 336.
 of southern New Brunswick, (70-71) pp. 15-18.
 of Queens and Sunbury Counties, east of St. John River, N.B., (72-73) p. 197.
see also references under place names.
- Topographical maps, want of accurate ones felt in mining districts, (70-71) p. 281.
- Topography of Cambro-Silurian districts in New Brunswick, note on, (82-84) p. 12 G.
- Torbolton Tp., Ont., the Calciferous Formation in, (1863) p. 116.
 iron-ores in, (76-77) p. 247.
- Toronto, Ont., exposures of Hudson River Formation in vicinity of, characters of, (1863) pp. 212-213.
 character of mineral-water in well at Bank of Upper Canada building, (1863) p. 542.
 brick-making, annual output, (1863) p. 801.
 rocks of vicinity suitable for flagging, note on, (1863) pp. 829-830.
- Toronto, Ont.—*Cont.*
 clays for white bricks found at, (1863) p. 898.
 clays of used in brick-making, red and white bricks made, (1863) pp. 903-904.
 longitude of determined by E. D. Ashe, (1863) p. 9 Atlas.
- Toronto Island, formation of, (1863) p. 915.
- TORRANCE, J. F., progress of examinations of apatite deposits of Ottawa Co., Que., (82-84) p. 12.
 report on apatite deposits of Ottawa Co., Que., and summary of explorations for 1883, (82-84) pp. 5-32 J.
 on character of rocks at Silver Peak, Hope, B.C., (77-78) p. 160 B.
- Torryburn Cove, Kennebecasis Bay, N.B., rocks of the gneiss belt at, (70-71) p. 40.
- Tossorontio Tp., Ont., lacustrine sandy deposit in (1863) p. 910.
- Totems, in relation to slavery among Indians of the West Coast, B.C., (78-79) p. 134 B.
 division of several tribes in vicinity of Queen Charlotte Islands, into four clans, laws, relating to marriage, etc., (78-79) p. 134 B.
- Totten lot, Acadia mines, N.S., analysis of iron-ores, (72-73) p. 30.
- Touchwood Hills, Assa., description by A. R. C. Selwyn and H. Y. Hind, (73-74) pp. 27-28.
 ice-bourne boulders on, (73-74) p. 29.
 distance from Qu'Appelle, direction of ridge, surface soil, trees, etc., (73-74) p. 81-82.
 abundance of Huronian boulders in drift near, (74-75) p. 42.
 to Fort Ellice, character of country, distance, lakes, sandy plain, (73-74) p. 82.
- Touchwood Lake, near Gods Lake, Keewatin, description of Huronian rocks of, (78-79) p. 36 C.
- Touffe des Pins River, Que., clay-slates of, (1863) p. 428.
see Gilbert River, Que.
- Touradiff River, Rimouski, Que., exposures of Gaspé limestones in, (1863) p. 418.
- Tourmaline, black, occurrence of, with graphite, (63-66) p. 25.
 in rocks of Blue River, and Garnet Creek, North Thompson, B.C., (71-72) p. 65.
 crystals of, in granite at Falls Brook, Douglas Valley, N.B., (70-71) p. 183.
 general notes on mode of occurrence and typical localities of, (1863) pp. 492-493.
 mode of occurrence in Laurentian, (63-66) p. 211.
 from Madoc, Ont., partial analysis of, (1863) p. 493.
 of apatite-bearing rocks of Ottawa Co., Que., note on., (77-78) p. 27 G.
 occurrence in Queens Co., N.B., crystals at Moore's mills, (70-71) p. 239.

- Tow Hill, Graham Island, Q.C.Is., B.C., description of, (78-79) p. 34 B.
rocks of, (78-79) p. 86 B.
traditions connected with, (78-79) p. 153 B.
- TOWNSEND, Jos., fossils purchased from, (80-82) p. 24.
- Townsend and Woodhouse Tps., Ont., estimate of thickness of Corniferous Formation in, (1863) p. 364.
- Tow-ti-now River, Athabasca-Edmonton trail, description of valley, (79-80) p. 86 B.
- Tow-us-tasin Mountain, Q.C.Is., B.C., situation of, (78-79) p. 37 B.
- Tracadigash Bay, Bay of Chaleurs, trap rocks north of, Bonaventure Formation, (1863) p. 449.
Lower Carboniferous rocks near Carleton, Que., (80-82) p. 7 D.
- Tracadigash Mountain, Gaspé, Que., outliers of trap along flank of, (1863) p. 449.
height of, rocks of, (80-82) p. 18 D.
- Trachypora elegantula*, Billings, wood-cuts of, (1863) p. 383.
- Trachyte, analysis of the orthoclase found in, (1863) p. 476.
note on, in crystalline rocks of Canada, (1863) p. 648.
for building stone, note on rocks from Brome and Shefford Tps., Que., (1863) p. 812.
various ages of, Montreal trachites newer than Brome and Shefford, (1863) p. 669.
of Cretaceous area, north end of Graham Island, Q.C. Is., (78-79) p. 84 B.
of Masset Inlet, Q.C. Is., Tertiary, (78-79) p. 88 B.
of Island of Montreal, descriptions and analyses of, (1863) pp. 658-662.
of intrusive rocks in Palaeozoic of Ontario and Quebec, (1863) pp. 656-663.
in Utica shales, vicinity of Montreal, Moffatt's Island, (1863) p. 207.
of Vermont and New York, note on with analysis, (1863) p. 663.
calcareous, from Montreal Mountain, foreign examples, (1863) p. 658.
felspars of, from Montreal Island, notes on analyses, (1863) p. 662.
granitoid of Brome and Shefford, Que., general characters of, (1863) p. 656.
from West Shefford and Brome Mt., Que., analyses, (1863) p. 656.
- Trachytic porphyry, on east side of Michipicoten Island, Ont., (63-66) p. 142.
- Trachyte-tuff, white, on Noocho Island, François Lake, B.C., (76-77) p. 87.
- Tracy seam, note on quality of coal, analysis by R. W. Ellis, (74-75) p. 189.
- Tracy's mills, Oromocto River, N.B., Upper Carboniferous rocks at, (72-73) p. 220.
- Trade and manufacture of Canadian salt, history and statistics of, (74-75) pp. 267-300.
- Trade in oolachen grease among Indians of coast of B.C., (78-79) p. 136 B.
- Traders road, exposures of Lignite Tertiary on International boundary, Assa., (79-80) p. 23 A.
Lignite Tertiary rocks on, near Wood Mountain, Assa., (79-80) p. 30 A.
- Traditions and folk-lore of Haida Indians of British Columbia, (78-79) pp. 149-154 B.
- Trafalgar Tp., Ont., well near Milton, (63-66) p. 252.
- Trail, from Babine Lake, B.C., to Fraser Lake, note on, (79-80) p. 27 B.
Bella Coola, B.C., descriptions of part of, (76-77) pp. 20, 25, 37.
from Cluscus to To-tuk Lake, B.C., (76-77) p. 22.
from Dunvegan to Smoky River, Atha., description of, (79-80) pp. 50-57 B.
from Edmonton to Athabasca Landing, map of, 8 m. = 1 in., Sheet III., (79-80) accompanying Part B.
from Fort Assiniboine to Edmonton, Alta., character of country, (79-80) pp. 94-95 B.
from Fort Macleod to Calgary, note on exposures near, (82-84) p. 78 C.
from Fraser Lake to Stuart Lake, B.C., general description of, (76-77) p. 51.
from Grande Prairie to South Thompson River, B.C., (77-78) p. 62 B.
from Hope to Osoyoos Lake, B.C., description of route, (77-78) pp. 45-51 B.
from Lesser Slave Lake to Fort Assiniboine, description of, (79-70) p. 92 B.
to Na-coont-loon Lake, B.C., disused, (76-77) p. 31.
from Nicola to Hope, B.C., description of, (77-78) p. 38 B.
from Nicola to Vermilion Forks, on Similkameen River, B.C., description of, (77-78) p. 42 B.
near Okanagan Lake, B.C., (77-78) p. 55 B.
from Okanagan to Vermilion Forks, B.C., description of country along, (77-78) p. 43 B.
rocks exposed on, (77-78) p. 105 B.
- Telegraph, in vicinity of Blackwater River, B.C., (76-77) p. 20.
at Ta-chick Lake, (76-77) p. 44.
from Tsa-cha Lake to Chizicut Lake, B.C., general description of, (76-77) p. 25.
- Training of girls among the Haida and Tshimshian Indians, (78-79) pp. 130-131 B.
- Tranquille River, B.C., gold on, (76-77) p. 142.
platinum from, (76-77) p. 148.
arable flat at mouth of, (77-78) p. 17 B.
gravels interstratified with white-silt on, (77-78) p. 142 B.
placer mining on, character of gold and platinum found, (77-78) p. 155 B.
- Transition beds at base of Laramie, section of at Scabby Butte, Alta., (82-84) p. 79 C.
- Transport in interior of British Columbia in 1876, (71-72) p. 20.
- Transportation of boulders in southern New Brunswick, (77-78) p. 2 EE.
of iron-ores, cost of, examples from various mines, (73-74) p. 245.

- Trap amygdaloidal, *see* Amygdaloids.
columnar dykes of, general note on, varieties of in Lake Superior copper-bearing rocks, (1863) pp. 72-74.
- Trap, greenstone, general characters of, (1863) pp. 649-651.
on north side of Abazotikitchewan Lake, Albany River, Ont., (71-72) p. 109.
on the Achigan River, Que., (1863) p. 147.
on Agiwa River, Lake Superior, (76-77) p. 218.
Bay of Chaleurs, areas in vicinity of, note on, (80-82) pp. 17-19 D.
from Black Cape, Bonaventure Co., Que., phosphoric acid in, (80-82) p. 16 H.
of Christmas Brook, N.S., (76-77) p. 411.
on François Lake, B.C., (76-77) p. 86.
at Gros Cap, Lake Superior, (63-66) p. 136.
east side Lake Nipigon to Blackwater River, Ont., (66-69) E. p. 341, F. p. 377.
below Mesnard vein, Michigan, composition of, (63-66) p. 155.
Michipicoten Island, Ont., on north shore, black, (63-66) p. 138.
on south shore, (63-66) pp. 139-140.
at Montarville, Que., marks of flow in, (1863) pp. 665-667.
at Montreal Mountain, Que., marks of flow in, (1863) p. 667.
of Nipigon River, Ont., (66-69) E. p. 339, F. p. 374.
flow of Nipigon Series indicated in wrinkles on surface, (72-73) p. 106.
of southern New Brunswick as outlined by Dr. A. Gesner, (70-71) p. 20.
at Pewabic mine, Mich., below copper-bearing rocks, composition of, (63-66) p. 157.
north of Pointe aux Mines, Lake Superior, (63-66) p. 136.
of Point aux Mines, (76-77) p. 215.
of Portage Lake district, Mich., argument for use of descriptive name, melaphyres, (63-66) p. 158.
from near Salmon House, B.C., altered, of Porphyrite Series, microscopical description of, (76-77) p. 67.
at St. Ignace Island, Lake Superior, marks of flow in, with diagram of wrinkles on surface, (1863) p. 72.
of vicinity of St. Roch, Que., and on the Achigan River, (1863) p. 147.
of Shepody Mountain, N.B., discovered in 1871, (71-72) p. 144.
of Thunder Bay, Ont., (66-69) E. p. 325, F. p. 358.
of Upper Copper-bearing rocks of Thunder Bay, columnar, not amygdaloidal in lower part, position in series, thickness, (1863) pp. 69-72.
white, *see* Trachytes.
- Trap breccia, on Crow River, Ont., at base of Trenton, (1863) p. 187.
in Bonaventure Formation, north shore, Bay of Chaleurs, Que., (1863) p. 447.
on south shore Michipicoten Island, Lake Superior, (63-66) p. 140.
- Trap conglomerate at Pointe Pin Sec., N.B., (79-80) p. 11 D.
- Trap dykes, in apatite deposits, Star Hill mine, Portland West, Ottawa Co., Que., (82-84) p. 11 J.
dolerite, in channel of Nelson River, Keewatin, upper part, (77-78) p. 15 CC.
at Ford's Harbour, Nain, Labrador, (82-84) p. 11 DD.
in Percé Tp., Gaspé, Que., description of, (80-82) p. 32 DD.
influence on topography, examples on east shore James Bay, (77-78) p. 11 C.
in Laurentian, general description, Grenville dolerites, (1863) pp. 37-38.
on McKay Lake, Pic River, Ont., (70-71) p. 331.
of Montreal Mountain, Que., cutting Palæozoic rocks, (1863) pp. 143-144.
of Ottawa, Terrebonne, Argenteuil and Two Mountains Cos., Que., (1863) pp. 839-840.
at West Cliff, Anticosti Island, Que., (1863) p. 224.
- Trap floors, in vicinity of Montreal, in Utica shale, (1863) p. 207.
- Trap hills, in Devonian area of Cascapedia River, N.B., (82-84) p. 20 E.
near St. Peters, N.B., (77-78) p. 19 F.
- Trap intrusion, in Cretaceous of Milk River, at Pa-kow-ki Coulee, Alta., (82-84) pp. 43-44 C.
- Trap overflow, of Lake Superior, rocks with which it is found in contact, (66-69) E. p. 350, F. p. 387.
discussion on age of, (66-69) E. pp. 472-475, F. pp. 526-530.
evidence of great disturbance or break in, (66-69) E. p. 473, F. p. 527.
evidence of Lower Silurian age south of Lake Superior, (66-69) E. p. 475, F. p. 530.
on Nastapoka Islands, Hudson Bay, (77-78) p. 18 C.
- Trap ridges, of Dalhousie, N.B., and Bon Ami Point, Bay of Chaleurs, (79-80) p. 20 D.
- Trapps Lake, north of Stump Lake, B.C., decomposed granite near, (77-78) p. 78 B.
- Trass, German cement stone, material of, (1863) p. 805.
- Travertine, instances of occurrence of in Ontario, (1863) p. 455.
deposits on Chilcotin and Nazco rivers, B.C., (75-76) p. 264.
in Quebec Group, note on references, (1863) p. 612.
in valley of Shell River, Man., (74-75) p. 31.
- Traverse Lake, St. Maurice River, Que., length, topography, Laurentian rocks of, (70-71) pp. 290-300.
- Treeless areas of plains, causes of, (74-75) pp. 50-51.

- Trees, of British Columbia, note on distribution of with map showing, (79-80) pp. 167-177. of Canada, note on northern limit of, east of Rocky Mountains with map, (79-80) pp. 38-56 C. of Manitoulin Island, Ont., note on, (63-66) p. 168.
- Tree trunks, in argillaceous shales of Coal Measures of N.S., (74-75) p. 196.
- Tremaine's mine, Port Hood, N.S., note on workings at, (82-84) p. 88 H.
- Trematis filosa*, Hall, wood-cut of, (1863) p. 159.
- Trematis Huronensis*, Billings, wood-cuts of parts of, (1863) p. 159.
- Trematis Montrealensis*, Billings, wood-cut of, (1863) p. 159.
- Trematis Ottawaensis*, Billings, wood-cut of, (1863) p. 159.
- Trematis terminalis*, Emmons, wood-cut of, (1863) p. 159.
- Tremblay Tp., Saguenay River, Que., Cambro-Silurian rocks of, (82-84) p. 10 D.
- Trembling Lake band, of crystalline limestone, position of, (1863) p. 44. outcrops of, (63-66) p. 14. general distribution of, (63-66) p. 14.
- Trembling Mountain, Que., estimated height of, (1863) p. 5.
- Tremolite, localities of occurrence, note on white variety from Algoma Tp., Renfrew, and Lanark Co., Ont., (1863) p. 466. crystals in marble of Barrie, Ont., (72-73) pp. 154-155. in dolomite of Bagot Tp., Ont., (76-77) p. 250. in limestone of French Vale, N.S., (76-77) p. 426. in limestones at Schooner Bay, Vancouver Island, B.C., (73-74) p. 97. occurrence of, in Ross Tp., Ont., (82-84) p. 15 L. locality of occurrence in Wakefield Tp., Que., (80-82) p. 13 GG.
- Tremolitic dolomite, of Lanark, Ont., characters and distribution of, (74-75) pp. 146-149.
- Trent River, Baynes Sound, Vancouver Island, B.C., 9 ft. coal-seam on reported, (71-72) p. 78. survey of part of, (72-73) p. 35. dip of strata, sandstones of, (72-73) p. 45. fossils of Lower Shales on, (72-73) p. 45. analysis of coal from, (72-73) pp. 77-78. section of rocks on, referred to, (76-77) p. 163.
- Trent River, Ont., general course of, outline of tributaries and lakes, heights on, (1863) pp. 11-12. beds of Trenton Group exposed at Healy Falls, (1863) pp. 187-188. thickness of Trenton limestone exposed on, (1863) p. 138.
- Trenton Formation, relation to Birdseye and Black River Formation, characters of in Canada and New York, (1863) pp. 136-137.
- Trenton Formation—*Cont.* limestone of, resting on quartzites, near Sheguiandah Bay, Lake Huron, (76-77) p. 210. wood-cuts of typical fossil species found in, (1863) pp. 156-190.
- Trenton Group, character of basal beds in Victoria Co., Ont., (1863) p. 190. basal sandstones near Lake Conchiching, Ont., (1863) p. 192. in Canada, description of exposures, distribution, fossils, etc., (1863) pp. 136-197. note on divisions of shown on general map of Canada, (1863) p. 18 Atlas. in Hastings Ont., description referred to, (63-66) p. 91. on Lake Temiscaming, boulders found, (1863) p. 335. on Manitoulin Islands, (63-66) p. 170. general description of, (66-69) E. p. 111, F. p. 125. mineral springs arising from, (1863) p. 361. petroleum in various localities, (63-66) p. 252. diagrammatic section of, at Campment d'Ours, Ont., (1863) p. 196. represented at Highgate Springs, Vt., diagrammatic sections showing relations of series, (1863) p. 855. thickness of on Georgian Bay, Ont., (1863) p. 193. thickness of formation at Manitoulin Island Ont., (63-66) p. 254. thickness of formation at Tilsonburg, Ont., (63-66) p. 254. thickness exposed on Trent River, Ont., (1863) p. 188.
- Trenton limestone, references to analyses, suitability of for lime, (1863) p. 803. description of, general characters of, (1863) p. 620. of Kentucky, yielding oil (63-66) p. 253. possibly furnishes oil to upper rocks, (63-66) p. 254. of Montreal, section of with fossils, (1863) pp. 137-138. thickness at Montreal, (1863) p. 139.
- Trenton period, sudden submergence at beginning of, note on, (1863) p. 295.
- Trepanage River, Okanagan Lake, B.C., description of trail up valley of, (77-78) p. 43 B. rocks on trail north of (77-78) p. 105 B.
- Trepannier Bay, Alma Is., Saguenay, Que., large vein of orthoclase at, (82-84) p. 9 D.
- Trescott, Maine, U.S.A., felsites with specular iron-ore, (70-71) p. 158.
- Trial pits at Springhill, N.S., section of coal-seams, (73-74) pp. 150-152. between Styles and St. Georges mines, Cumberland coal-field, N.S., (73-74) p. 165.
- Trials of Pictou coals, report by E. Hartley on, (66-69) E. pp. 396-438, F. pp. 439-489.
- Triangle Island, Skidegate Inlet, Q.C.Is., B.C., conglomerates of, (78-79) p. 66 B.

- Triarthrus Beckii*, Green, wood-cut of, (1863) p. 202.
- Triarthrus glaber*, Billings, wood-cut of, (1863) p. 202.
- Triarthrus spinosus*, Billings, wood-cut of, (1863) p. 202.
- Triassic age of trap overflow on Lake Superior, questioned by Logan, (66-69) E. pp. 472-475, F. pp. 526-530.
- Triassic fossils, from Houston Stewart Channel, Q.C. Is., B.C., (78-79) p. 49 B.
discovered at New London, P.E.I., (82-84) p. 19 E.
from Peace River, notes on, (75-76) p. 97.
found in Queen Charlotte Is., note on, (78-79) p. 45 B.
from Section Cove, Burnaby Island., Q.C. Is., (78-79) p. 55 B.
from South Island, Skidegate Inlet, Q.C. Is., (78-79) p. 62 B.
found on northern part of Vancouver Island, (78-79) p. 46 B.
- Triassic limestone, in Nicola Series, Nicola Lake, B.C., (77-78) p. 75 B.
and shales on Maude Island, Skidegate Inlet, Q.C. Is., B.C., (78-79) p. 63 B.
- Triassic rocks, of Bay of Fundy, *see* New Red Sandstone.
of Grand Manan Island, N.B., (70-71) pp. 218-221.
of southern New Brunswick, distribution and description of Martin Head area, (78-79) pp. 21-22 D.
of Nova Scotia, unlike the rocks of Prince Edward Island, (82-84) p. 12 E.
of P.E.I., regarded as Permo-Carboniferous, (82-84) p. 16 E.
of Queen Charlotte Islands, B.C., descriptions of local exposures, (78-79) pp. 49-63 B.
unconformity at top of series, (78-79) p. 81 B.
of Rocky Mountains, absence of red beds on Peace River, showing open sea deposits only, (79-80) p. 130 B.
of southern British Columbia, (77-78) pp. 63-105 B.
- Triassic trap, of Grand Manan Island, N.B., contact with older rocks, (70-71) p. 220.
magnetite occurring in, on shores of Bay of Fundy, (73-74) p. 207.
intrusions in the Lower Carboniferous at Quaco, N.B., note on, (78-79) p. 23 D.
- Tribune Bay, Hornby Island, B.C., section of Upper Shales, (72-73) pp. 49-50.
section of Upper Conglomerates, (72-73) pp. 50-51.
- Trichocarcinus Oregonensis*, Miers, note on specimens from Vancouver and Queen Charlotte Islands, (78-79) p. 207 B.
- Trichonta Dawsoni*, Scudder, description of from Tertiary beds of Quesnel, B.C., (75-76) p. 272.
- Trichotropis borealis*, Sow., wood-cut of, (1863) p. 964.
- Triclinic feldspars, *see* Anorthosites.
- Trigonia Dawsoni*, Whiteaves, description of from Sigutlat Lake and Iltasyouco River, B.C., (76-77) p. 154.
- Trilobites, notice of paper by E. Billings on legs of, first found, (69-70) p. 11 Summ.
- Tring Tp., Que., serpentines of, supposed horizon of, (1863) p. 254.
band of red and green sandstones in, (1863) p. 255.
occurrence of arragonite in, noted, (1863) p. 456.
occurrence of manganese-ores in, (1863) p. 752.
- Trinity Bay, Que., fine gray diorite intrusion at, (66-69) E. p. 306, F. p. 338.
- Trinucleus concentricus*, Eaton, wood-cuts of, (1863) p. 190.
- Tripolite, from Pollet River Lake, N.B., analysis and examination of, (78-79) pp. 5-6 H.
analysis and practical tests in brick-making, (79-80) pp. 3-6 H.
- Triumph Bay, Gardner Channel, B.C., rocks of, (74-75) p. 79.
- Troak Mt., Lake Utopia, Charlotte Co., N.B., Mascarene Series composing, (70-71) p. 149.
- Trochonema umbilicata*, Hall, wood-cut of, (1863) p. 180.
- Trois Pistoles, Que., section of conglomerates and shales of Silly Formation, (1863) p. 260.
- Trophon scalariforme*, Gould, wood-cut of, (1863) p. 964.
- Trough form of rocks in Levant Tp., Ont., (76-77) p. 249.
- Trout, large size of, from Gods Lake, Keewatin, (78-79) p. 30 C.
in rivers entering Prince of Wales Sound, Hudson Strait, (82-84) p. 26 DD.
- Trout Brook, Cape Breton Co., N.S., Lower Silurian rocks of, general description of, (77-78) p. 12 F.
- Trout Brook, Gillanders Mt. road, Inverness Co., N.S., pre-Cambrian rocks of, (82-84) p. 11 H.
- Trout Brook, Lake Ainslie, N.S., conglomerate and grit of, (82-84) p. 44 H.
- Trout Brook, Miramichi River, N.B., slates of, (66-69) E. p. 192, F. p. 212.
- Trout brooks in Cape Breton Island, N.S., general note on, (82-84) p. 83 H.
- Trout Creek, Okanagan Lake, B.C., trail westward from, character of country, (77-78) p. 43 B.
- Trout Creek, Kings Co., N.B., bituminous shales of Lower Carboniferous on, (78-79) p. 16 D.
- Trout Fall, near Knee Lake, Keewatin, quartzite of, (77-78) p. 21 CC.
- Trout fishing, in Long Lake River, B.C., two varieties of brook trout, (75-76) p. 35. o

- Trout Lake, head-waters of Kapuskasing River, Moose River basin, Ont., geology of, rocks seen, (80-82) pp. 6-7 C.
- Trout Lake, Lake Tp., Hastings Co., marble band reaching to, (66-69) E. p. 149, F. p. 165.
- Trout Lake, below McLeod Lake, B.C., description of surrounding country, (75-76) p. 37.
- Trout Lake, Palmerston Tp., Ont., mica-schist series in, (74-75) p. 129.
- Trout Lake, Severn River, Ont., note on rocks from collected by Bishop of Moosonee, (79-80) p. 4 C.
- Trout River, Knee Lake, Keewatin, chloritic schists with syenite pebbles, (77-78) p. 21 CC.
below Oxford Lake, length of, (77-78) p. 5 CC.
Huronian rocks of, magnetic iron-ore, (78-79) p. 36 C.
- Trout River, near Missinaibi Lake, Ont., ridges and conical hills on edge of valley, large boulders, (80-82) p. 9 C.
- Trout River, Kapuskasing River, Moose River Basin, Ont., geology of route from Missinaibi to Trout Lake, (80-82) p. 6 C.
- Trout streams in Magdalen Islands, Que., (79-80) p. 11 G.
- Trox Oustaletii*, Scudder, description of, from Tertiary of Nine-mile Creek, B.C., (77-78) p. 178 B.
- Truro, N.S., deposits of iron-ore reported near, (73-74) p. 206.
- Trusty pit, Templeton, Que., fluor-spar found at, (77-78) p. 16 G.
galena and molybdenite found at, (77-78) p. 36 G.
- Trutch's map of British Columbia, error in distances near Stuart Lake noted, (75-76) p. 30.
- Tsa-cha Lake, B.C., meaning of name, tributary streams of, (76-77) p. 25.
rocks near, (76-77) p. 68.
Tertiary rocks near, (76-77) p. 79.
- Tsa-whuz Mountain, south of Fort George, B.C., height by aneroid, description of country seen from summit, (75-76) pp. 244-245.
diorite of, probably of Porphyrite Series, (75-76) p. 252.
probably an outlier of basaltic series, (75-76) p. 261.
glacial striation on, elevation of, (75-76) pp. 261-262.
travelled pebbles and boulders on, quartzite drift, (75-76) p. 264.
- Tsed-a-kul-ko or Cheddakulk River, B.C., description of trail-crossing on, (76-77) p. 35.
- Tse-tzi Lake, B.C., location of, (76-77) p. 25.
- Tshimsian Indians of B.C., the potlatch or yak as practised among, (78-79) p. 127 B.
religious rites and initiation of, (78-79) p. 125 B.
- Tshimsian jester, duties of, (78-79) p. 120 B.
- Tshimsian Peninsula, B.C., the rocks of, (79-80) p. 100 B.
- Tsil-be-kuz or Kultus Coolie Lake, general description of, (76-77) p. 26.
- Tsinkut Lake, B.C., prairie flat, botanical notes, (75-76) p. 132.
- Tsi-tsutl Mountain Range, east of Coast Range, B.C., (76-77) p. 26.
arctic vegetation of, (76-77) p. 33.
timber on eastern flank, north of Bella Coola valley, (76-77) p. 35.
elevation of, rocks of, volcanic vents, (76-77) p. 76.
- Tsoo-skatli, Masset Sound, Q.C.Is., B.C., description of, (78-79) p. 36 B.
- Tsuga Mertensiana*, Lindl., distribution and average size of, in British Columbia, (79-80) p. 170 B.
- Tsuga Pattoniana*, Englm., occurrence of in British Columbia, (79-80) p. 170 B.
- Tsul-tel-a-ko River, B.C., general description of, (76-77) p. 32.
- Tudor Tp., Ont., conglomerates of, (63-66) p. 93.
galena localities, descriptions, (63-66) p. 104.
map of, scale 4 miles to the inch, (66-69) E. p. 143, F. p. 159.
rocks of lower divisions, Hastings Series in, (66-69) E. p. 149, F. p. 165.
iron-ore belt, division B., Hastings Series, locality of occurrence, samples from shown at Exhibition of 1862, Paris, (66-69) E. p. 152, F. p. 169.
rocks of upper division Hastings Series in, (66-69) E. p. 158, F. p. 176.
specimens of *Eozoön Canadense* from, described by J. W. Dawson, (66-69) E. p. 159, F. p. 176.
galena localities, Murphy mine, (66-69) E. p. 162, F. p. 179.
note on occurrence of carbonate of bismuth, (66-69) E. p. 171, F. p. 190.
copper and gold-ores, note on, (74-75) p. 160.
note on felspar from diorites in, (74-75) p. 309.
note on diorite of, (74-75) p. 310.
blotched diorite of, (76-77) p. 255.
Eozoön in rocks referred to Lower Laurentian, (76-77) p. 255.
limestones of, corresponding beds in Lanark and Horton Tps., (76-77) p. 262.
anorthosite of, (76-77) p. 269.
note on bismuth at Smith's mine, (82-84) p. 9 L.
gold location owned by Sheppard, note on, (82-84) p. 12 L.
- Tufa, calcareous, for lime, deposits of in Ontario, (1863) p. 804.
at Gargantua Cape, Lake Superior, (76-77) p. 218.
near Pointe aux Mines, Lake Superior, (76-77) pp. 214-216.
volcanic, on east shore of Lake Superior, (76-77) p. 213.

- Tuff, altered, in Porphyrite Series, Salmon River, B.C., (76-77) p. 60.
metamorphosed, on Kes-la-chick River, B.C., (76-77) p. 70.
- Tuladie River, Temiscouata Lake, Que., rocks exposed on and near mouth of, (1863) pp. 421-422.
- Tulameen River, North fork Similkameen River, B.C., description of, red cliffs, (77-78) p. 50 B,
list of fossil-plants from Tertiary of, (77-78) p. 186 B.
- Tulip tree, note on occurrence of in Ontario, (79-80) p. 53 C.
- Tungstate of iron found in boulder, Lake Couchiching, Ont., analysis of, (1863) p. 503.
- Tupper Point, Strait of Canso, N.S., section of Carboniferous rocks on, (79-80) pp. 86-88 F.
- Turcotte's mills, Yamaska River, Que., Hudson River Formation at, (1863) p. 209.
- Turner Brook, Forest Glen, N.S., pre-Cambrian rocks of, caves in, (82-84) p. 25 H.
- Turner's method of making malleable iron, (66-69) E. p. 299, F. p. 331.
- Turner's mine, Lake Clear, Ont., note on apatite deposit, (82-84) p. 7 L.
- Turtle Creek, N.B., distribution of Albert shales and section of Lower Carboniferous rocks, (76-77) p. 363.
- Turtle Mountain, Man., underlain by Lignite Tertiary, lignite may be discovered, (79-80) p. 7 A.
elevation of county at bore-hole, shale passed through, depth of hole, (79-80) pp. 10-11 A.
note by A. R. C. Selwyn on coal-district, workable seams found in Dakota, near, (82-84) p. 2.
- Turtle River, North Sashatchewan River, size and character of, (73-74) p. 34.
- Tuscarora, Ont., spring issuing from Onondaga Formation containing sulphuric acid, (1863) p. 352.
description of mineral spring, analysis of water, (1863) pp. 545-546.
- Tus-ul-ko River, B.C., width of, elevation at trail-crossing, (76-77) p. 35.
- Tutty's place, Loran, N.S., iron-ore at, (76-77) p. 450.
- Twelve-foot chute, Nelson River, Keewatin, clay banks terminate at, (78-79) p. 24 C.
- Twenty-mile Creek, Similkameen River, B.C., contact of granite with dark quartzites, (77-78) p. 84 B.
- Twin crystals, of pyrrhotite from Elizabethtown, Ont., illustration of, (74-75) facing p. 306.
- Twin Lake, Buckingham, Que., graphite localities near, (63-66) p. 25.
- Twins, The, mountain on Burnaby Island, Q.C. Is., B.C., (78-79) p. 19 B.
- Twist Lake, West Homathco River, B.C., specimens of porphyrite from, (75-76) p. 251.
- Two Creeks, Man., Cretaceous shale reported by H. Y. Hind, on, (73-74) p. 83.
- Two Discharges River, on route to Lake Mistassini, general description of, (70-71) p. 284.
- Two-foot seam at Howley Ferry, Little Bras d'Or Lake, N.S., note on, (74-75) p. 244.
- Two-foot-six-inch coal-seam, Springhill, N.S., sections in pits, (75-76) pp. 344-345.
- Two Heart River, Lake Superior, coarse peat and wood in terrace deposits of, (1863) pp. 905-906.
- Two Mountains Co., Que., outlier of Lower Helderberg on north side of Mount Calvair, (1863) p. 357.
map showing distribution of Laurentian rocks in part of, scale 7 miles = 1 in., (1863) Atlas.
for general geology see *Part I*, p. 11.
- Two-ridged Mountain, Gaspé, Que., notes on Gaspé limestone in Dartmouth River near, (1863) p. 881.
- TYRRELL, J. B., work by in re-classifying fossils in museum, 1882, (80-82) p. 22.
work by as assistant to G. M. Dawson, 1883, (82-84) p. 3.
- TYRRELL, J. W., work by on survey of Lake of the Woods, 1883, (82-84) p. 5.
- Tyrrell Lake, Verdigris Coulee, Alta., sandstone exposed near, (82-84) p. 52 C.
- Tzazate Mountain, Nazco River, B.C., character of valley near, (75-76) p. 241.
- Tzes-a-tza-kwa River, Babine Lake, B.C., impure coal found at, (79-80) p. 104 B.
- Uhl-ghack, of Eliguck Lake, B.C., general description of, (76-77) p. 26.
rocks near, (76-77) p. 69.
- Ulmus Americana*, Willd., note on northern limit of in Canada, (79-80) p. 48 C.
- Ulmus fulva*, Michx., range of in Canada, note on, (79-80) p. 55 C.
- Ulmus racemosa*, Thomas, range of in Canada, (79-80) p. 55 C.
- Ultimate analyses of coals and lignites of N.W.T., table showing, (82-84) facing p. 44 M.
- Un-cha Brook and Lake, B.C., tributary of François Lake, (76-77) p. 48.
- Unconformity, between Animikie and Huronian, (1863) p. 77.
between Cambro-Silurian and pre-Cambrian, (80-82) p. 16 D.
on Beccagumic River, N.B., (82-84) p. 8 G.
in Carboniferous between limestones and conglomerates, on Grantmire Brook, N.S., (75-76) p. 405.
in Carboniferous, between lower and upper parts probable, in New Brunswick, (71-72) pp. 144, and (82-84) p. 7 G.

Unconformity—*Cont.*

- in Carboniferous between lower and upper parts, note on, (82-84) p. 7 G.
- between Carboniferous and New Red Sandstone near Quaco, N.B., (70-71) p. 218.
- below Middle Carboniferous in New Brunswick, (72-73) p. 189.
- between Carboniferous and Devonian, at Guysborough Harbour, N.S., (79-80) pp. 46 F. and (82-84) p. 15.
- of Cape Breton Island, N.S., (79-80) p. 33 F.
- at Mispic Basin, N.B., (70-71) p. 174.
- at Scaumenac Bay, Bay of Chaleurs, (79-80) p. 10 D. and (80-82) p. 7 D.
- between Carboniferous and Nicola Series, near Kamloops, B.C., (77-78) p. 171 B.
- between Lower Carboniferous and Silurian, near Belledune, N.B., (79-80) p. 8 D.
- and Devonian beds at Brèche à Manon and White Head, Gaspé, (82-84) p. 2 DD.
- between Cretaceous and Triassic at Cumshewa Inlet, B.C., diagrammatic section, discussion, (78-79) pp. 79-80 B.
- between Coal Measures and underlying formations in New Brunswick, (72-73) p. 223.
- at base of Coal Measures on Smith Island, off Port Hood, N.S., (82-84) p. 47 H.
- between divisions in pre-Silurian, Coldbrook and Coastal Groups of New Brunswick, (77-78) p. 18 DD.
- between Devonian and Carboniferous of Cape Breton Island, N.S., referred to, (79-80) p. 33 F.
- at Guysborough Harbour, N.S., (79-80) p. 46 F.
- referred to, (82-84) p. 15.
- between Devonian and Lower Carboniferous at Mispic Basin, N.B., (70-71) p. 174.
- on Scaumenac Bay, Bay of Chaleurs, (79-80) p. 10 D.
- at Scaumenac Bay, Bay of Chaleurs, (80-82) p. 7 D.
- between Devonian and New Glasgow conglomerates, (66-69) E. p. 66, F. p. 73.
- between Devonian and Silurian on Woodman Brook, Cascapedia River, Que., (82-84) p. 26 E.
- between Huronian and Animikie or lower group of Upper Copper-bearing rocks, (1863) p. 77.
- between Huronian or pre-Silurian and St. John Group, (77-78) p. 28 DD.
- between Huronian and Laurentian probable, (72-73) p. 14.
- between Mascarene Series and Perry Sandstones, (70-71) p. 201.
- between Millstone Grit and New Glasgow conglomerates, (66-69) E. p. 66, F. p. 73.
- between New Glasgow conglomerates and Devonian, (66-69) E. p. 66, F. p. 73.
- between Nicola Series and limestones on South Thompson River, B.C., (77-78) p. 81 B.
- of Nicola Series on Carboniferous, near Kamloops, B.C., (77-78) p. 171 B.

Unconformity—*Cont.*

- between Perry Sandstone and Mascarene Series, (70-71) p. 201.
- between Potsdam and Sillery Formations, Lower St. Lawrence, (66-69) E. p. 122, F. F. 137.
- between Porphyrite Series and Tertiary basalts at Bella Coola, B.C., (76-77) p. 66.
- between pre-Cambrian and Cambro-Silurian in Grand Pabos district, N.B., (80-82) p. 16 D.
- between Primordial belt and pre-Silurian rocks of Quinn Lake, N.B., (77-78) p. 26 DD.
- between St. John Group and pre-Silurian or Huronian, (77-78) p. 28 DD.
- between Sault Ste. Marie sandstones and trappean series of Lake Superior, (1863) p. 86.
- between Sault Ste. Marie sandstones and Upper Copper-bearing Series, (63-66) p. 137.
- between Sillery and Potsdam Formations, Lower St. Lawrence, (66-69) E. p. 122, F. p. 137.
- between Silurian and Cambro-Silurian discovered by G. F. Matthew on Beccagumic River, N.B., note on, (82-84) p. 8 G.
- between Silurian and Devonian on Woodman Brook, Cascapedia River, N.B., (82-84) p. 26 E.
- between Silurian and Lower Carboniferous near Belledune, N.B., (79-80) p. 8 D.
- at Brèche à Manon and White Head, Gaspé, Que., (80-82) p. 2 DD.
- between Tertiary basalts and Porphyrite Series near Bella Coola valley, B.C., (76-77) p. 66.
- between Triassic and Carboniferous rocks at Grand Manan Island, N.B., (70-71) p. 218.
- between Triassic and Cretaceous at Cumshewa Inlet, B.C., with diagrammatic section, (78-79) pp. 79-80 B.
- between Upper Copper-bearing Series and Sault Ste. Marie sandstones, (63-66) p. 137, and (66-69) E. p. 474, F. p. 528.
- at base of crowning overflow, Lake Superior, (66-69) E. p. 332, F. p. 366.
- of trap overflow, Lake Superior to Laurentian and Huronian, (66-69) E. p. 472, F. p. 526.
- in Upper Copper-bearing Series, below trap and sandstones, (63-66) p. 135.
- Underclays of Coal Measures of Nova Scotia, (74-75) p. 198.
- Undergrowth, in the Fraser River Valley, B.C., list of shrubs, (75-76) p. 115.
- Undulations in beds of Corniferous Formation, (63-66) p. 258.
- in Laurentian limestones in Grenville region, Que., (1863) p. 837.
- Ungava Bay, Hudson Strait, character of country surrounding, (82-84) p. 16 DD.
- Ungava District, note on limit of trees in, (82-84) p. 17 DD.

- Ungava River, navigable at mouth, tides at Fort Chimo, (82-84) p. 16 DD.
- Uniacke, N.S., statistics of gold for 1869-71, (71-72) p. 150.
- Uniacke Point, N.S., gypsum at, (76-77) p. 443.
- Union Coal Mining Co.'s claim on Vancouver Island, (71-72) p. 77.
- Union mine, Comox, B.C., list of fossil plants from rocks at, (71-72) p. 98.
analysis of coal from, (71-72) p. 99.
measurements of section in cliff, diagram of section, (72-73) pp. 38-39.
sections on small stream at, (72-73) pp. 49-41.
analysis of coal from lower seam, (72-73) p. 76.
analysis of coal from seam No. 11, 4 foot seam, (72-73) p. 77.
section at, referred to, (76-77) p. 162.
- Union mine, Sydney N.S., former workings at, (72-73) p. 257.
- Union mine, Tilt Cove, Nfld., statistics of copper- and nickel-ore for 1869-71, (71-72) p. 153.
- Union Point, St. John River, N.B., Laurentian rocks at, (70-71) p. 37.
- United States, duties on salt, effect on manufacture of, (74-75) p. 270.
Geological Survey of, amount of appropriation for, (74-75) p. 5.
statistics of salt manufacture, (74-75) pp. 289-290.
- Unknown Creek, Coquihalla River, B.C., direction of valley, (77-78) p. 41 B.
crystalline rocks of, (77-78) p. 71 B.
- Unmodified drift or till, of southern New Brunswick, (77-78) pp. 1-10 BB.
see also Till.
- Upham, Kings Co., N.B., Huronian rocks of, (70-71) p. 62.
the Lower Carboniferous of, (70-71) p. 208.
small purple crystals of fluor-spar found at, (70-71) p. 237.
to Hardingville, N.B., syenite hills, (77-78) p. 8 DD.
- Upham Parish, N.B., gravel ridges in, (77-78) p. 14 EE.
- Uplift of region of Great Plains, note on, (82-84) p. 151 C.
- Upper Belly, St. Mary and Waterton Rivers, Alta., and vicinity, general description of, (82-84) pp. 20-23 C.
- Upper Belly River, Alta., Cretaceous and Laramie rocks of disturbed belt, sections and fossils, (82-84) pp. 60-64 C.
Willow Creek beds of, section in Belly Butte, (82-84) p. 63 C.
analyses and colorific power of coal from, (82-84) pp. 36-37 M.
- Upper Blackwater Cañon, B.C., description of rocks of Lower Cache Creek Group in, (75-76) p. 248.
- Upper and lower boulder-clay, diagrammatic sections showing relations of, on Belly River, Alta., (82-84) p. 144 C.
- Upper Cañon of Blackwater River, B.C., general description of, (75-76) p. 243.
- Upper Carboniferous Formation, outcrop on Lyons Stream, Oromocto River, N.B., (72-73) p. 221.
in New Brunswick, thickness of, (72-73) pp. 221-223.
on Salmon Creek, N.B., section of, (72-73) p. 206.
thickness of, in central part of Cumberland Co., N.S., (73-74) p. 169.
- Upper Carr coal-seam, east of Low Point, N.S., section of, (74-75) p. 224.
- Upper Caverhill, Queensbury, York Co., N.B., Cambro-Silurian sandstones of, (82-84) p. 20 G.
- Upper Coal-formation of New Brunswick, characters of, rocks of, (72-73) p. 197.
- Upper Coal Measures, Cumberland Co., N.S., grey sandstone ridge, exposures of, south of Coal Measures, (73-74) p. 167.
divisions and thickness of, (73-74) p. 170.
- Upper Coldbrook Group, composition and age of, (70-71) p. 59.
thickness of, (70-71) p. 59.
lower part of, referred to pre-Silurian, (77-78) p. 28 DD.
- Upper Conglomerate, Comox basin, B.C., section in Tribune Bay, (72-73) pp. 50-51.
- Upper Copper-bearing Series of Lake Superior, description of lower group, (1863) pp. 67-70.
the upper group, descriptions of, (1863) pp. 70-86.
distribution of upper and lower parts, contact with Laurentian and Huronian, (1863) pp. 77-78.
age of, note showing reasons for placing them in a series below Sault Ste. Marie sandstones, (1863) pp. 85-86.
change in strike near Michipicoten, denoting dislocation in, not affecting Sault Ste. Marie sandstones, (1863) p. 86.
descriptions of deposits, (1863) pp. 698-708.
report on, (63-66) pp. 131-143.
sandstones of, (63-66) p. 134.
beds of not continuous, (63-66) p. 134.
quartz-porphry above sandstones, (63-66) p. 135.
breccia above sandstone, (63-66) p. 135.
eruptive rocks of, (63-66) pp. 136-137.
unconformity above, (63-66) p. 137.
of Michipicoten I., (63-66) pp. 137-143.
thickness of beds and total thickness, (63-66) p. 141.
compiled section of lower group, (66-69) E. p. 318, F. p. 350.
upper group, compiled section of, (66-69) E. pp. 319-321, F. pp. 352-354.
age assigned by R. Bell, (66-69) E. p. 321, F. p. 354.

- Upper Copper-bearing Series—*Cont.*
 on peninsula behind Thunder Cape, (66-69) E. p. 331, F. p. 366.
 character of, west of Black Sturgeon River, (72-73) p. 97.
 extent west of Black Sturgeon River (72-73) p. 97.
 north-west of Lake Superior, source of trap, (72-73) p. 105.
 on east shore of Lake Superior, (76-77) p. 213.
- Upper Devonian of New York and Ontario, description of Hamilton, Portage and Chemung Groups, (1863) pp. 380-382.
- Upper Gagetown, Queens Co., N.B., gravel ridge, description of, (82-84) p. 24 GG.
- Upper Helderberg Group, divisions of in New York, (76-77) p. 241.
 formations included in, (1863) p. 362.
 maps showing areas, (1863) Atlas.
- Upper Laurentian, for early descriptions see Anorthosites and Labradorite rocks.
 maps showing areas, (1863) Atlas.
 doubts respecting position of, (76-77) p. 254.
 or Labradorite Series, relation to Lower Laurentian, (76-77) p. 268.
 note on, by H. G. Vennor, (76-77) p. 301.
- Upper magnesian band in Frampton, Cranbourne and Ware Tps., Que., (66-69) E. p. 135, F. p. 151.
- Upper Marie Joseph Lake, Richmond Co., N.S., raised beach, (77-78) p. 27 F.
- Upper Nechacco Cañon, B.C., description of, (76-77) p. 43.
 illustration showing rocks at rapids, (76-77) facing p. 44.
- Upper Nechacco River, B.C., size below Na-tal-kuz Lake, moraines in valley, (76-77) p. 42.
 analysis of lignite from, (76-77) p. 467.
- Upper Pentamerus limestone division, of Lower Helderberg Group, characters of in New York, (1863) p. 355.
- Upper Quaco road, N.B., exposures of schistose group of pre-Silurian, (77-78) pp. 20-21 DD.
- Upper Queensbury, N.B., kames near, (82-84) p. 23 GG.
- Upper Salmon River, Albert Co., N.B., section of pre-Silurian rocks on, (77-78) pp. 4-5 D.
 analysis of coal, bituminous, from Dernier estate, (79-80) p. 8 H.
 to Intercolonial Railway, colored geological section (78-79) accompanying Part D.
- Upper Sandstones, on Little Smoky and Athabasca rivers, Atha., (79-80) p. 126 B.
 and Shales (Fox Hill and Laramie) on Wapite and Smoky rivers, Atha., sections, thickness of, (79-80) p. 125 B.
- Upper series of Laurentian of New Brunswick, relations of to Huronian and Laurentian, (78-79) p. 2 D.
- Upper Shales, of Comox basin, B.C., section of, on Hornby Island, (72-73) pp. 49-50.
 Cretaceous, of Peace River, exposures on Pine and Smoky rivers, Atha., fossils of, (79-80) pp. 122-124 B.
- Upper Shales—*Cont.*
 and Sandstones of Cretaceous of Q.C.Is., J. Richardson's description quoted, (78-79) p. 64 B.
 description of, breadth of band, attitude of beds, (78-79) p. 64 B.
- Upper Silurian fossils, from Black Bay, N.B. (70-71) p. 161.
 from near Blue Mt., N.B., (70-71) p. 167.
 from Pembroke and Denbo, Maine, (70-71) p. 162.
 from Wentworth Station, N.S., (74-75) p. 9.
see also Silurian fossils.
- Upper Silurian Formation, of Canada, descriptions of divisions and distribution, (1863) pp. 345-358.
 altered, general description of, (1863) pp. 616-618.
 note on reasons for making subdivision in, (1863) p. 933.
 thickness at Beaver and Deadman's Harbour, N.B., (76-77) p. 338.
see also Silurian Formation.
- Upper Silurian rocks, auriferous quartz veins of Eastern Townships, Que., in, (63-66) p. 69.
 of Chaudière River, Que., reference to description of, (66-69) E. p. 136, F. p. 151.
 of Frye Island and Black Bay, N.B., (70-71) pp. 160-163.
 of Gaspé, Que., petroleum in limestones, (63-66) p. 260.
 of Kings Co., N.B., (70-71) pp. 164-169.
 of Oak Bay and vicinity, N.B., (70-71) pp. 163-164.
 in southern New Brunswick, (70-71) pp. 159-169.
 fossils discovered on Frye Island, (70-71) p. 159.
 note on correlation work done on Mascarene Series, (74-75) p. 86-88.
 north of crystalline belt, comparison with Mascarene Series, (74-75) p. 88.
 report by G. F. Matthew on, (77-78) pp. 1-3 E.
 in Petersville, N.B., section on Queen Brook, (75-76) pp. 355-357.
 of Sunbury and Queens Cos., N.B., (75-76) pp. 352-366.
 general discussion of divisions 1-5 with table of thickness, anticlines, etc., (75-76) pp. 352-354.
- Upper Silurian slates, of Nova Scotia, occurrence of magnetite in, (73-74) p. 206.
- Upper Southampton, N.B., kames in valley of St. John River at, description of, (82-84) p. 22 GG.
- Upperton, N.B., purple sandstone of Primordial rocks exposed in, (77-78) p. 32 DD.
- Upsalquitch Lake, N.B., route to from Nipisiguit River, (79-80) p. 3 D.
 pre-Cambrian gneisses of, (79-80) p. 30 D.
- Upsalquitch River, N.B., general description of, (79-80) p. 3 D.
 Devonian rocks of, note on, (79-80) p. 14 D.
 Silurian rocks of, gabbros, fossiliferous beds, (79-80) p. 16 D.
 felsites on upper part of, (79-80) p. 37 D.

- Upsalquitch River, N.B.—*Cont.*
 trappean belt on, (79-80) p. 39 D.
 intrusive masses in Silurian rocks probably
 do not extend to coast, (80-82) p. 13 D.
- Upton Tp., Que., copper-bearing limestone of
 Quebec Group in, (1863) p. 244.
 analysis of diorite from, (1863) p. 604.
 note on galena localities in, (1863) p. 690.
 note on copper-ores in, work done on,
 (1863) p. 712.
 reference to silver in galena from, (1863)
 p. 739.
 remains of former sea beach in, (1863)
 p. 925.
 copper-ore localities in, (63-66) p. 308.
- Uralite, note on physical characters of, (77-78)
 pp. 19-20 G.
 in diabase, description by Rosenbush, (77-78)
 p. 19 G.
 of Templeton Tp., Que., analysis of, (77-78)
 p. 22 G.
- Uranium, ores of found at Maimainse, Lake
 Superior, analysis of coracite, (1863)
 p. 504.
- Uran-ochre reported from Madoc, Ont., (1863)
 p. 504.
 with magnetite at Seymour ore-bed and in
 Snowden Tp., Peterborough, Ont., (73-74)
 p. 205.
- Utah coal-mines, extracts from report by Jas. T.
 Hodge on, (73-74) pp. 54-56.
- Utica Formation, rocks forming mass of, (1863)
 p. 621
 general distribution in Canada, sections
 and illustrations of fossils, (1863) pp. 198-
 224.
 in Ontario, distribution of, (1863) pp. 210-
 219.
 characters and distribution in vicinity of
 Grondines, Que., (1863) p. 202.
 exposed on Lake Champlain, Que., note on,
 (1863) p. 275.
 apparently superimposed on Lévis Forma-
 tion in Gaspé, note on, (80-82) p. 23 DD.
 distribution of east from Longueil, Que.,
 (1863) p. 208.
 thickness of on Manitoulin Islands, Ont.,
 (1863) p. 216.
 outline of outcrop, (1863) p. 216.
 on Manitoulin Island, Ont., (63-66) p. 171.
 at Maple Point, Manitoulin Island, Ont.,
 (66-69) E. p. 111, F. p. 125.
 in New York State general sketch of, (1863)
 p. 210.
 outliers near Ottawa, Ont., (1863) pp. 219-220.
- Utica shales altered by trap dyke, near St.
 Helen Island, Montreal, (1863) p. 635.
 establishment at Collingwood for extracting
 bitumen from, (1863) p. 212.
 thickness of at Montreal less than at Que-
 bec, (1863) p. 207.
 of Lake St. John, Que., impregnated with
 bitumen, (82-84) p. 13 D.
- Utöpa Lake, Charlotte Co., N.B., sections of
 Mascarene Series at, (70-71) p. 149.
 gravel ridges at, (77-78) pp. 15 E.
see Lake Utöpa.
- Ut-te-was Village, Masset Inlet, Q.C.Is, de-
 scription of, (78-79) pp. 35, 163 B.
 latitude observation at, (78-79) p. 235 B.
- Uz-tli-hoos River, near Boston Bar, B.C., de-
 scription of valley, (77-78) p. 37 B.
 elevation of terraces in valley, (77-78)
 p. 148 B.
 diagrammatic section of rocks in, from Boston
 Bar to Spioos Creek, (77-78) facing
 p. 174 B.
- Vail's inn, Magnaguadavic River, N.B., Lower
 Carboniferous rocks at, (70-71) p. 213.
- Valdes Island, B.C., height of escarpment on,
 dip of rocks, etc., (71-72) p. 87.
 rocks of, (76-77) p. 186.
- VALERIANOS, APOSTOLOS, voyage of on west coast
 of America, (78-79) p. 6 B.
- Valin River, Saguenay River, Que., Trenton
 limestone in bed of, (82-84) p. 11 D.
- Valley of François and Fraser Lakes, B.C., gen-
 eral description of, (76-77) p. 45.
- Valley-drift, definition of term, (82-84) p. 8 GG.
- Valleys, in British Columbia, influence of
 geological structure on direction, (77-78)
 p. 15 B.
 in central British Columbia, characters and
 ages of, (77-78) p. 6 B.
 of Cariboo District, B.C., gravel deposits
 in, (76-77) p. 108.
 abandoned, in southern Alberta, (82-84)
 pp. 14, 31, 43 C.
 geological structure causing, at mouth of
 Itasyouco River, B.C., (76-77) p. 63,
 cut by Middle Fork, Old Man River, Alta.,
 note on, (82-84) p. 102 C.
 of rivers of plains, mode of formation,
 (74-75) p. 47.
- Van Bremer silver-mine, B.C., workings, char-
 acter and value of ore, (76-77) p. 131.
- Vanceboro', St. Croix River, N.B., heavy de-
 posit of till at, (82-84) p. 11 GG.
- VANCOUVER, CAPT. GEORGE, note on surveys of,
 on West Coast in 1792 and 1794, (78-79)
 p. 12 B.
 description of west coast of Queen Char-
 lotte Islands, (78-79) pp. 4-5 B.
- Vancouver Coal Company, section of strata in
 mine at Nanaimo, B.C., (71-72) p. 85,
 and (76-77) p. 177.
 wharf at Nanaimo, view of, with U. S. gun-
 boat, (76-77) facing p. 170.
 statistics of coal produced during 1869-71,
 (71-72) p. 152.
- Vancouver Island, B.C., early geological writ-
 ings on, (71-72) p. 51.
 report on coal-fields of by Jas. Richardson,
 (71-72) pp. 73-100.

Vancouver Island, B.C.—*Cont.*

- localities where coal is known to occur, (71-72) p. 75.
 report on coal deposits on Strait of Georgia, (71-72) pp. 76-89.
 superficial deposits of southern part, (71-72) pp. 93-94.
 coal-bearing rocks of, (72-73) pp. 34-56.
 fossil flora, (71-72) p. 98, and (72-73) pp. 66-68.
 average of analyses of coals of, (72-73) p. 79.
 note on clay-ironstone of Cretaceous rocks of, (73-74) p. 240.
 cost of labour at coal-mines, (73-74) p. 243.
 notes and descriptions of fossils from by J. F. Whiteaves, collected by Jas. Richardson, (73-74) pp. 260-268.
 note on correlation of Cretaceous rocks of, (73-74) p. 265.
 notes on botany of vicinity of Victoria, character of country, (75-76) pp. 110-113.
 climate of as indicated by vegetation, (75-76) p. 112.
 list of herbaceous plants in flower in May, (75-76) p. 113.
 catalogue of plants collected on, (75-76) pp. 186-232.
 volcanic action evident in building up of, (76-77) p. 88.
 gold on, note on, (76-77) pp. 118, 144.
 coal measures of, general note on, (76-77) p. 121.
 report by Jas. Richardson on coal-fields of, (76-77) pp. 160-192.
 iron-ore in, (76-77) p. 146.
 average amount of ash in coals from, (76-77) p. 473.
 volcanic activity in Carboniferous times, shown in rocks of, (77-78) p. 170 B.
for reports on districts of see Part I, pp. 19-20.
- Vanluven Creek, Storrington, Ont., Potsdam sandstone exposed at, (1863) p. 97.
- Vanluven's mills, Storrington Tp., Ont., section of beds at base of Trenton Group, (1863) p. 177.
- Vanuzemia Montrealensis*, Billings, wood-cuts of, (1863) p. 131.
- Vanuzemia Tomkinsi*, Billings, wood-cuts of, (1863) p. 375.
- Van Winkle Creek, B.C., gold workings on, (76-77) p. 138.
- Van Winkle mine, Cariboo, B.C., description of operations at, (76-77) p. 109.
 assay of ore for gold and silver, (75-76) p. 429.
- Van Winkle and Barkerville road, B.C., granite series on, (71-72) p. 65.
- Vapour emissions from rocks at Quesnel, B.C., (71-72) p. 59.
- Varennes, Que., description of mineral springs and reference to analyses of water, (1863) p. 546.
 analyses of mineral-water from saline and gas springs, (1863) p. 549.

Variation of magnetic needle, indicating copper-deposits, (63-66) p. 146.
 at Churchill and on lower part of Churchill River, Keewatin, (78-79) p. 23 C.
 list of observations taken by R. Bell on Churchill River, Nelson River and Lake Winnipeg, (78-79) pp. 71-72 C.
 on Lake Nipigon, Ont., note on, (66-69) E. p. 345, F. p. 381.
 at Limestone Rapid, Nelson River, Keewatin, (78-79) p. 24 C.

Vaseux Lake, Okanagan Valley, B.C., position of, (77-78) p. 53 B.

Vaudreuil Co., Que., track impressions in Potsdam sandstone at Pointe du Grand Detroit, (1863) p. 90.
 height of Potsdam track-beds above Lake St. Peter, (1863) p. 109.
 analyses of limonite from Côte St. Charles and Petite Côte, (1863) p. 511.
 note on sandstone of for building stone, (1863) p. 813.
 character of bog-iron deposits, description of ores from several localities, (73-74) p. 236.
for general geology see also Part I, p. 11.

Vaudreuil Seigniory, Beauce, Que., exposures of serpentine in, (1863) p. 254.
 Gaspé Series on Chaudière River, (1863) pp. 427-428.
 analysis of diorite from St. Francis, (1863) p. 603.
 silver in lead-ore of, (1863) p. 739.
 note on iron-ore deposit containing titanium, (1863) p. 754.
 occurrence of steatite at falls on Chaudière River, noted, (1863) p. 798.
 leases of mining rights in, (63-66) p. 49.
 gold on Gilbert River, (63-66) pp. 56-60.
 De Lery Concession, rich gold deposits in, (63-66) p. 36.
 St. Charles Concession, old workings on Gilbert River in, (63-66) p. 56.
 lots examined for auriferous quartz, (63-66) p. 70.
 quartz veins in Concessions Chassegras, De Lery, North-east and St. Charles, (63-66) pp. 71-74.
 description of quartz-veins from localities in, reports of assays of, (63-66) pp. 71-74.
 assay of eight samples of quartz from, (63-66) p. 83.

Vaudreuil Seigniory, Vaudreuil Co., Que., note on bog-ore deposits of, (1863) p. 683.
 deposit of ochre and phosphate of iron in, vivianite, (1863) p. 770.
 peat-deposits reported in rear of, (1863) p. 780.
 sandstone suitable for glass making in, (1863) p. 800.
 sandstones of suitable for millstones, (1863) p. 808.

Vaughan Tp., Ont., note on rarity of boulders in, (1863) p. 895.

- Vaughan Brook, near Quaco, N.B., Huronian rocks of, (70-71) p. 64.
upper group of conglomerates in Triassic with fossils from, (70-71) p. 217.
pre-Silurian rocks exposed above Carboniferous outlier, (77-78) pp. 8-9 D.
schistose beds of pre-Silurian, (77-78) p. 23 DD.
- Vegetables and crops grown at the following places:
Australian ranche, near Quesnel, B.C., (71-72) p. 68.
East Main coast, Hudson Bay, (77-78) p. 25 C.
Edmonton, Alta., in 1875, (75-76) p. 289.
Dunvegan, Atha., (79-80) p. 69 B.
Fort Churchill, Hudson Bay, (78-79) p. 21 C.
Fort George, B.C., (76-77) p. 53.
Fort George, James Bay, (77-78) p. 25 C.
Fort McLeod, B.C., (75-76) p. 141.
Fort McMurray, Athabasca River, (75-76) p. 171.
Fort Pitt, Sask., (73-74) p. 35.
Fort St. James, B.C., (76-77) p. 51.
Fort St. John, Peace River, (75-76) p. 154.
Fort Simpson, Mackenzie River, (75-76) p. 164.
Lake Athabasca, (75-76) p. 165.
Lake Mistassini, Que., (70-71) p. 303.
Lesser Slave Lake, Atha., (79-80) p. 70 B.
Moose Factory, Keewatin, (75-76) p. 341.
Nain, Labrador, (82-84) p. 13 DD.
Norway House, Keewatin, (77-78) p. 30 CC.
Oxford House, Keewatin, (77-78) p. 30 CC.
Pavillion Mountain farm, Fraser River, B.C., (71-72) p. 68.
Prince Albert, Sask., in 1875, (75-76) p. 289.
Queen Charlotte Islands, B.C., (78-79) p. 113 B.
for other references see under place names.
- Vegetation, of Blackwater valley, B.C., (76-77) p. 23.
of interior of British Columbia and on Peace River Pass, notes on, (75-76) pp. 83-84.
of Eu-chen-i-ko valley, B.C., (76-77) p. 22.
near François Lake, B.C., (76-77) p. 50.
near Kamloops, B.C., (71-72) p. 69.
of plateau south of Kamloops, B.C., (77-78) p. 28 B.
of country west of McLeod Lake, B.C., (79-80) p. 33 B.
at Quesnel, B.C., (76-77) p. 18.
on burnt ground in vicinity of Salmon River, B.C., (76-77) p. 30.
on Salmon River, B.C., (76-77) pp. 28-29.
of Thompson River valley, B.C., (77-78) p. 16 B.
arctic, of Tsi-tsutl Range, B.C., (76-77) p. 33.
and climate of Pine River Pass, B.C., note on principal trees, etc., (79-80) p. 44 B.
of Skeena River valley, B.C., (79-80) pp. 17-20 B.
- Vein graphite from Buckingham, Que., analysis of, (76-77) pp. 500-501.
- Vein structure in Laurentian limestones, (63-66) p. 188.
- Veins, of apatite in North Burgess Tp., Ont., (73-74) p. 115.
in Ottawa Co., Que., examples of, (77-78) p. 6 G.
carrying barytes and lead, cutting Calciferous in Frontenac Co., Ont., (72-73) p. 169.
of copper-bearing rocks, (63-66) p. 145.
of crystalline felspar opposite Leach Island, Lake Superior, (76-77) p. 218.
of magnetite in the Laurentian and Huronian, localities cited, (73-74) p. 194.
metalliferous, *see* Mineral veins.
of plumbago in Buckingham Tp., Que., (76-77) pp. 309-311.
granitic, in Eastern Townships, Que., general note on, (1863) p. 477.
nature of quartz veins in Eastern Townships, Que., (63-66) p. 85.
see also Quartz veins.
- Veinstones, of upper group of Upper Copper-bearing rocks of Lake Superior, general note on, (1863) p. 75.
of lower part of Upper Copper-bearing rocks, general note on, (1863) p. 76.
gold-bearing, general association and character of, (70-71) p. 254.
- VENNOR, H. G., work of from 1866-1868, (66-69) E. p. 143, F. p. 159.
report on North Hastings and part of Addington and Peterborough Cos., Ont., (66-69) E. pp. 143-171, F. pp. 159-190.
reference to paper on rocks of Hastings Co., Ont., published in 1867, (66-69) E. p. 144, F. p. 160.
work by for 1868, (68-69) p. 5 Summ.
note by A. R. C. Selwyn on work in central Ontario in 1869, (69-70) p. 5 Summ.
work in 1870 in Frontenac and Lanark Cos., Ont., (70-71) p. 8.
area examined in 1870, (70-71) p. 309.
abstract of report on parts of Frontenac, Leeds and Lanark Cos., Ont., (70-71) pp. 309-315.
divisions made of the Archæan rocks in Ontario, (70-71) p. 310.
summary of work of 1871 in Frontenac and Lanark Cos., and at Marmora, Ont., (71-72) pp. 120-121.
report on iron-ores of Frontenac, Leeds and Lanark Cos., Ont., (71-72) pp. 121-123.
report on apatite deposits of North Burgess, Bedford and South Crosby Tps., Ont., (71-72) pp. 123-129.
report on gold-bearing zones at Marmora, Ont., (71-72) pp. 129-140.
summary of investigations for 1872, Frontenac, Leeds and Lanark Cos., Ont., (72-73) pp. 136-137.
report on explorations in Addington, Frontenac, Leeds and Lanark Cos., Ont., (72-73) pp. 136-179.
summary of work during 1873 in Frontenac, Leeds and Lanark Cos., Ont., (73-74) p. 103.
report on surveys in Frontenac, Leeds and Lanark, (73-74) pp. 103-139.

VENNOR, H. G.—*Cont.*

- note on distribution of crystalline limestones, (73-74) pp. 104-106.
 note on phosphate rocks, of Loughborough and Bedford Tps., Ont., (73-74) pp. 107-109.
 of North Burgess. (73-74) pp. 109-139.
 notes on plumbago and phosphate deposits of Ottawa Co., Que., (73-74) pp. 139-146.
 summary of work during 1874, (74-75) pp. 105-106.
 progress report of explorations in Lanark and Frontenac Cos., (74-75) pp. 105-159.
 map of Lanark Co., Ont., with part of Renfrew, (74-75) p. 105.
 notes on economic minerals of Ontario, (74-75) pp. 159-165.
 investigations of for 1875, (75-76) p. 3.
 summary statement of views on position of rock groups of Laurentian, (75-76) p. 4.
 work in Ottawa Co., Que., in 1876, (76-77) p. 3.
 report on surveys in Renfrew, Pontiac and Ottawa Cos., and iron-ores, apatite and plumbago deposits, (76-77) pp. 244-320.
 work by, in Quebec phosphate-bearing rocks, (77-79) p. 6.
 summary of work by on Laurentian rocks of Canada from 1866 to 1878, (77-78) p. 10 A.
 summary of explorations for 1880, iron-ore discovered at St. Jerome, Que., (79-80) p. 3.
 preliminary sketch of position and character of labradorite rocks near St. Jerome, Que., and the limestone bands of, (79-80) p. 3.
 resignation of, work not reported on, (80-82) pp. 5-6.
 Vennor's lot, Buckingham, Que., note on apatite deposits on, (82-84) p. 20 J.
 Ventilation in coal-mines, remarks by John Rutherford on, (72-73) p. 292.
 machinery, necessity for, (70-71) p. 3.
 in Block House mine, N.S., (72-73) p. 280.
 in Caledonia mine, N.S., furnaces used, (72-73) p. 263.
 at Gowrie mines, N.S., (72-73) p. 286.
 of International mine, N.S., (72-73) p. 259.
 of Lingan mines, N.S., (72-73) p. 251.
 in Lorway mine, N.S., (72-73) p. 268.
 of Springhill colliery, N.S., (73-74) p. 160.
 of Sydney mines, N.S., methods used for, (72-73) p. 246.
 of Victoria mine, N.S., (72-73) p. 256.
 Vents, Tertiary, west of Telegraph Range, B.C., (76-77) p. 75.
Veratrum album, Michx., 'poison weed' of central British Columbia, (77-78) p. 40 B.
 Verchères Co., Que.;—
 for general geology see *Part I*, p. 11.
 Verd-antique marble, serpentines of Eastern Townships, Que., resemble, (1863) p. 825.
 Verdigris Coulée, Alberta, note on, (82-84) pp. 14 and 15 C.
 lakes in, general description of, (82-84) p. 19 C.
 Belly River Series exposed in, fossils found, (82-84) p. 52 C.

Verdigris Coulée, Alberta—*Cont.*

- Belly River Series in, position relatively to Pierre shales, (82-84) p. 124 C.
 probable origin of, (82-84) p. 150 C.
Verrillea Blakei, (sea-pen), specimens collected by Jas. Richardson, (74-75) p. 13.
 Vermicular limerock, position in Onondaga Formation, (1863) p. 345.
 in boring at Goderich, Ont., (76-77) p. 227.
 Vermilion, Peace River, character of valley of river at, (75-76) p. 88.
 grain grown at, character of surrounding county, (75-76) p. 159.
 no summer frosts at, (75-76) p. 160.
 Vermilion Cliff, Tulameen river, B.C., description of, combustion of lignite, Tertiary mineral-springs, (77-78) pp. 130-131 B.
 Vermilion Fall, Peace River, Atha., rocks at, (75-76) pp. 88-89.
 Vermilion Forks, Similkameen River, B.C., rocks near, (82-84) p. 17 B.
 note on Tertiary rocks of, (82-84) p. 32 B.
 description of valley running north from, trail to Nicola, B.C., (77-78) p. 42 B.
 character of valley of Similkameen River at, (77-78) p. 50 B.
 Tertiary rocks of, organic remains, vertebrate remains, (77-78) p. 129 B.
 Vermilion Lake, north of Rainy Lake Ont., Laurentian rocks of, (80-82) p. 14 C.
 Vermont, U.S.A., Tertiary rocks of, note on, (1863) p. 929.
 for rocks of *Franklin Co.* see Highgate Springs, Swanton and Swanton Falls.
 Vermont forges or bloomaries. in operation in 1868, (66-69) E. p. 277, F. p. 306.
 Vermont granites, age of as determined by Hitchcock, (80-82) pp. 6-7 A.
 Vernon Pond, St. John, N.B., sections of Laurentian at, (70-71) p. 42.
 VERRILL, PROF. A. E., description of geology of Grand Manan Island, referred to, (70-71) pp. 101, 220.
 Vesicular diorites, south of Lake Abitibi, (72-73) p. 125.
 Vespra Tp., Ont., lacustrine sandy deposit in, (1863) p. 910.
 Vesuvianite, of apatite-bearing rocks of Ottawa Co., Que., (77-78) p. 27 G.
 Vesuvius Bay, B.C., rocks at, (76-77) p. 184.
 Vibrating mouth-piece used in dancing by Haida Indians, B.C., (78-79) p. 139 B.
 Victoria, B.C., reference to early writings on geology of, (72-72) p. 51.
 rocks of vicinity, altered limestones, (71-72) p. 52.
 crystalline limestones exposed near, (71-72) pp. 91-93.
 note on rock specimens from, (71-72) p. 99.
 glacial striæ observed near, (72-73) p. 65.
 notes on character of the county and vegetation around, (75-76) pp. 110-113.

Victoria, B.C.—*Cont.*

- rocks of probably same as at Alberni, (76-77) p. 88.
- glaciation of vicinity, note on, (78-79) p. 98 B.

Victoria, Alta., garden at, latitude and longitude of, (73-74) p. 37.

- coal-seam in stream opposite, (75-76) p. 289.
- grain and root crops of 1875, maple trees grown, (75-76) p. 289.
- road to Lac La Biche, note on, (79-80) p. 97 B.
- situation of, character of county north of, (79-80) p. 99 B.

Victoria Bridge, Mira Lake, N.S., strike of Silurian argillites, (77-78) p. 14 F.

Victoria Bridge, Montreal, stone quarried at Pointe Claire, Montreal Island, and at Isle la Motte, Lake Champlain, (1863) p. 141.

boulder-clay found in bed of river at, (1863) p. 920.

Victoria Co., N.B., part of shown on map, scale 8 m. = 1 in., (66-69) facing page, E. p. 173, F. p. 191.

calcareous clay-slate of, (66-69) E. pp. 198-209, F. pp. 219-221.

Tobique valley and tributaries in, (66-69) E. pp. 200-204, F. pp. 221-227.

the economic minerals of, by Chas. Robb, (66-69) E. pp. 204-209, F. pp. 228-232.

calcareous slates of, (70-71) pp. 249-250.

supplementary report by Chas. Robb, (70-71) pp. 250-251.

Victoria Co., N.S., record of mines and statistics of coal for 1869-71, (71-72) p. 149.

report on geology of part of, by H. Fletcher, (76-77) pp. 402-456.

Laurentian rocks of, (76-77) p. 424.

report on geology of with that of the northern part of Inverness Co., accompanying maps in sheets, 1 mile = 1 in., (82-84) pp. 5-98 H.

assay of copper-pyrites from, opposite Man of War Point, (82-84) p. 3 MM.

maps issued in 1884, scale 1 mile = 1 in., Sheets Nos. 1, 2, 3, 4, 5, 7, 8, 10, 11, 12, 13, and 15.

for general geology see also *Part I.*, pp. 5-6.

Victoria Co., Ont., the Trenton Group in, (1863) pp. 190-191.

Victoria Corners, Carleton Co., N.B., contact of Silurian and Cambro-Silurian to Woodstock, (82-84) p. 9 G.

Victoria gold-mine, Monteagle Tp., Hastings Co., Ont., assay of ores for gold and silver, (82-84) pp. 6-7 MM.

Victoria mine, Ascot Tp., Que., description of, copper-ore of, (63-66) p. 42.

Victoria mine, N.S., former descriptions of, (72-73) p. 253.

surface workings and machinery, (72-73) p. 254.

railway and wharf, (72-73) p. 255.

underground work, system of, (72-73) p. 255.

Victoria mine, N.S.—*Cont.*

ventilation and production of, (72-73) p. 256.

description and analysis of coal-seam, (72-73) p. 290.

statistics, output, force employed and plant at, (72-73) p. 290.

to Sydney South Bar, section of Millstone Grit, (74-75) pp. 185-186.

length of slope, extended workings, (74-75) p. 230.

diagrammatic section of measures, (74-75) facing p. 266.

Victoria mine, near Sault Ste. Marie, Ont., galena of, (76-77) p. 211.

silver-ore from, assay of, (76-77) p. 480.

assay of galena from, (77-78) p. 51 G.

Victoria Mountain, Que., note on felspathic rocks of, (1863) p. 250.

Victoria phosphate-mine, North Burgess Tp., Ont., workings at, quantity mined, (71-72) p. 126.

statistics for 1870, (71-72) p. 147.

Victoria road, Inverness Co., N.S., crystalline-limestone, north of Glendale, N.S., (79-80) pp. 27-28 F.

rocks of Plaster Cove exposed on, (79-80) pp. 93-96 F.

Victoria salt-works, Goderich, Ont., yield of, (66-69) E. p. 223, F. p. 246

Victoria seam, Victoria mines, N.S., description of, (72-73) p. 253.

rock masses in, (74-75) pp. 201-202.

section on coast of Sydney Harbour, (74-75) p. 228.

probable fault in, similarity to Block House seam, (74-75) p. 229.

Victoria Series of Vancouver Island, general relations of, to gold-bearing rocks of Leech River, (76-77) p. 101.

position of in table of formations, (77-78) p. 173 B.

View, from Brassy Hill, Hill River, Keewatin, (77-78) facing p. 24 CC.

at Bridgewater, Ont., sketch of diorite hills, (72-73) facing p. 152.

of coal-seam on North Saskatchewan River, (73-74) facing p. 49.

of cliffs on inner side of Hopewell Island, Hudson Bay, (77-78) p. 19 C.

of cliff at Point Wilkins, Lake Winnipegosis, Man., (74-75) p. 67.

up Little Churchill River, above Recluse Lake, (78-79) facing p. 15 C.

down Nelson River, from near Clearwater River, (77-78) frontispiece to Part CC.

see also Illustrations, sketches, etc.

View Mountain, Vancouver Island, B.C., slates and limestones of, (72-73) p. 55.

Viger Tp., Que., first and second divisions of Potsdam Formation in, (66-69) E. p. 129, F. p. 144.

Villages, in Cape Breton and Richmond Cos., N.S., (77-78) p. 26 F.

of Haida Indians, B.C., note on arrangement, etc., (78-79) pp. 116, 161-171 B.

- Village Point, Denman Island, B.C., prominent escarpment at, Lower Conglomerates, (72-73) p. 46.
- Villeray Seignior, Que., note on bog-ore deposits in, (1863) p. 684.
- Villeray Tp., Que., Lévis beds holding pyrites, protruding through Lauzon division, (66-69) E. p. 133, F. p. 148.
- Villette-Paris, France, description of super-phosphate works at, (77-78) pp. 12-13 H.
- Vipond level, Londonderry mines, N.S., length of, (72-73) p. 25.
- Virago Sound, Q.C. Is., B.C., sketch of, made by G. H. Inskip in 1853. (78-79) p. 13 B. sketch of on scale 2 knots = 1 in., (78-79) facing p. 15 B. description of coast near, (78-79) pp. 38-39 B. rocks of, (78-79) p. 89 B. bluish clays probably glacial at, (78-79) p. 94 B. description of Kung Indian village at, (78-79) p. 163 B. new species of *Asterioidea* from, (78-79) pp. 193-194 B. new species of *Macoma* from, (78-79) p. 196 B. new species of *Lepton* from, (78-79) p. 198 B. latitude observations at, (78-79) p. 236 B. to Masset Inlet, rocks of coast, (78-79) p. 89 B.
- Virginia oil-wells in Carboniferous and Lower Carboniferous rocks, (63-66) p. 240.
- Visitors to Museum for 1874-75, (74-75) p. 15. for 1875-76, (75-76) p. 6. for 1876-77, (76-77) p. 8. for 1877-78, (77-78) p. 9. for 1879, (78-79) p. 6. for 1880, (79-80) p. 9. for 1881, (80-82) p. 11. for 1882, (80-82) p. 28. for 1883, (82-84) p. 23.
- Vital Creek, B.C., note on native amalgam and native silver from, (76-77) p. 116. silver-ore from, (76-77) p. 147.
- Vivianite, deposit of noted, with ochres of Vaudreuil Seignior, Que., (1863) p. 770.
- Vocabulary of the Haida Indians of Q.C. Is. by G. M. Dawson, (78-79) pp. 177-189 B.
- Volcanic action indicated in Mesozoic rocks of Nechacco River, B.C., (76-77) p. 74.
- Volcanic activity, three periods of, in British Columbia, (76-77) p. 88.
- Volcanic bombs in agglomerate near Kamloops, B.C., (77-78) p. 119 B.
- Volcanic breccia, holding plant remains, Battle Mt., Chilcotin River, B.C., (75-76) p. 253. of Leach Island, Lake Superior, (76-77) p. 218.
- Volcanic group (Lower Cambrian) of the Quebec Group, lithological characters, contemporaneous beds, probable age, fossils of, (77-77) pp. 5-7 A.
- Volcanic matter, contemporaneous with Carboniferous and Triassic on Q.C. Is., note on, (79-79) p. 46 B.
- Volcanic mountains in Coast Range, B.C., (76-77) p. 26.
- Volcanic mud from near Tsa-cha Lake, B.C., (76-77) p. 79.
- Volcanic rocks, of Tertiary age in British Columbia, note on, (76-77) p. 92. of pre-Silurian age in New Brunswick, relation to metamorphic beds, (77-78) pp. 3-9 D. of Quesnel, B.C., examination by T. S. Hunt, (71-72) p. 67. of Masset Inlet, B.C., general character of, (78-79) pp. 87-89 B. Mesozoic, of west coast, B.C., relations of, (76-77) p. 91. gold in, in Colorado, U.S.A., (76-77) p. 479. on Goldstream, B.C., (76-77) p. 96. of Graham River, Inverness Co., N.S., (79-80) p. 104 F. *see also* Agglomerates, Amygdaloids, Ash beds, Basalt, Eruptive rocks, Porphyry, Trap, Trachyte, etc.
- Volcanic Series, of British Columbia, character of rocks, (71-72) pp. 56-58. overlying Triassic, east coast Q.C. Is., thickness, (78-79) p. 59 B.
- Volcanoes, ancient, in Tertiary areas west of Telegraph Range, B.C., (76-77) pp. 75-76.
- Völknerite, note on and probable occurrence in Burgess Tp., Ont., (63-66) p. 213.
- Voyages of early navigators on West Coast, résumé of, (78-79) pp. 5-14 B.
- Voyage from York Factory to London, notes by R. Bell, (79-80) pp. 16-27 C.
- Waagan Brook, Restigouche River, N.B., character of county below, (79-80) p. 18 D.
- Wabatongwashene Lake, Ont., rocks seen on shores of, and south to Mattawagaming Lake, (80-82) p. 4 C.
- Wabigoon Lake, Ont., rocks seen on, native copper reported, (80-82) p. 14 C.
- Wabigoon River, Ont., Laurentian rocks of, (80-82) p. 13 C.
- Wabigoon Station to Rat Portage, Ont., examination of country along Railway, (80-82) pp. 13-14 C.
- Wabinoosh Bay, Lake Nipigon, Ont., gneiss running along shore north of, (66-69) E. p. 347, F. p. 384. boulders of gneiss on trap rocks, (66-69) E. p. 352, F. p. 390. view of Outer and Inner Barns from, (77-78) p. 17 C.
- Wabinoosh Lake, west of Lake Nipigon, Ont., trap hills surrounding, (66-69) E. p. 349, F. p. 385. size of, streams entering, (71-72) p. 105.

- Wabinoash River, Lake Nipigon, Ont., copper pyrites, reported on, (66-69) E. p. 360, F. p. 399.
survey and description of, (71-72) pp. 105-106.
- Wabiguekobing Lake, Ont., copper-ore in quartz vein, (1863) p. 697.
- Waboose Island, Mattawagaming Lake, Ont., rocks of, granite hill opposite, (80-82) p. 4 C.
- Wad or oxide of manganese occurrence of in Madoc, Ont., (63-66) p. 107.
occurrence of near Fredericton, N.B., (82-84) p. 47 G.G.
see also Bog manganese.
- Wadsworth Lake, Hastings Co., Ont., slates of vicinity of, (66-69) E. p. 156, F. p. 173.
- Waewig River, near St. Stephen, N.B., arsenical iron-pyrites on, (70-71) p. 223.
- Wages of miners, in Cariboo, B.C., (76-77) p. 113.
in Omineca, B.C., during summer of 1879, (79-80) p. 112 B.
- Wagon road, B.C., iron-ore near, (76-77) p. 146.
limestone localities on, (77-78) pp. 162-163 B.
made by Royal Engineers in mountain east from Hope, B.C., (77-78) p. 45 B.
from Kamloops to Mission on Okanagan Lake, B.C., (77-78) p. 56 B.
- Wahcomatagaming Lake, Ont., greenstones and gneiss in contact at, relation uncertain, (1863) p. 842.
Huronian quartzites and slate-conglomerates on, (1863) p. 842.
thickness of greenstone dykes in Huronian at, (1863) p. 843.
- Wahnapiatae Lake, Ont., quartzites on, (75-76) pp. 296-297.
- Wahnapiatae River, Ont., boundary of Laurentian on, (1863) p. 47.
note on diorite at base of Huronian, sequence of Huronian rocks near, (1863) pp. 51-52.
Huronian boulders perched on Laurentian, (1863) p. 894.
band of Huronian limestone at Island Portage, (75-76) p. 296.
- Wainfleet Tp., Ont., occurrence of petroleum in Corniferous limestone at Gravelly Bay, (1863) p. 368.
- Wakefield Tp., Que., apatite in, note on deposits of, (76-77) p. 308.
chrome-garnet of apatite rocks, (77-78) p. 26 G.
assay of quartz for gold and silver, (78-79) p. 19 H.
note on iron-ore localities in, (80-82) p. 3 G.G.
occurrence of graphite on lot 7, R. I., (80-82) p. 6 G.G.
notes on apatite-mines of, (80-82) pp. 8-10 G.G. and, (82-84) pp. 18-20 L.
- Wakinitche Lake, south of Lake Mistassini, Que., position and extent of, (read instead of Chibogomow Lake), (70-71) p. 285.
- Wakinitche Lake—*Cont.*
slates, serpentines and sandstones, (70-71) p. 292.
portages on route to, area of lake, etc., (70-71) p. 302.
- Wakinitche Mountain, south of Mistassini Lake, Que., conglomerates and sandstones of, (70-71) p. 294.
- WALBRIDGE, T. C., discovery of hematite in Madoc, Ont., by, (63-66) p. 100.
- Walbridge hematite mine, Madoc, Ont., output of, crystals of specular iron at, (82-84) p. 11 L.
- Walbridge mine, Thunder Bay District, Ont., lead-ore of, (66-69) E. p. 359, F. p. 397.
- Walker Island, Oxford Lake, Keewatin, fossil from, (78-79) p. 51 C.
- Walker Islands, B.C., iron-ore in, (76-77) p. 146.
- Walker's Gulch, B.C., gold workings at, (76-77) p. 134.
- Walker Lake, near Cross Lake, Nelson River, description of, (79-80) p. 5 C.
- Walkerton, Ont., note on exposures of Onondaga Formation, dolomites, lithographic stone, (1863) p. 351.
note on occurrence of lithographic stone near, (1863) p. 835.
description of Saugeen clays at, (1863) p. 899.
- WALLACE, L. C., borings collected by at New-castle Bridge, N.B., (74-75) p. 96.
- WALLACE, PROF., analysis of stellar- and oil-shale, Acadia Colliery mine, N.S. (66-69) E. p. 378, F. p. 419.
- Wallace Cove, St. John Co., N.B., rocks west of, (70-71) p. 210.
- Wallace mine, Ont., occurrence of copper-ore with arsenical sulphuret of iron and nickel, (1863) p. 59.
trials on outcrop of vein of copper and nickel at, (1863) p. 60.
note on arsenical ores at, (1863) p. 505.
analysis of nickel-ore from, (1863) p. 506.
condition of workings, nickel-ore, (1863) p. 695.
note on nickel-ore of with analysis, (1863) p. 737.
- Wallace Tp., Ont., outcrop of Corniferous Formation recorded in, (1863) p. 371.
- Wallbridge mills, Stanbridge, Que., faults near, at Beaver Brook, (1863) p. 853.
- Walloostook River or St. John River, Que., Gaspé Series exposed on, (1863) pp. 426-427.
- Walpole Tp., Ont., reddish-brown clay in, (1863) p. 902.
- Walrus bones found on Miscou Island, N.B., (79-80) p. 43 D.
- Walsingham Tp., Ont., clay deposits of referred to, (1863) p. 902.
- Walton, Hants Co., N.S., note on manganese mine near, (82-84) p. 21 L.

- Walton Lake, near Long settlement, N.B., dip of petrosilicious rocks, (77-78) p. 15 DD.
- Walton slate quarry, Melbourne Tp., Que., note on character of slate, price, etc., (1863) p. 830.
- Wanamakei, Hammond River, N.B., assay of galena from, (78-79) p. 18 H.
- Wanapiti, *see* Wahnapiitae.
- Wapinaipinis portage, view up Franklin River, Keewatin, from, (77-78) facing p. 9 CC.
- Wapinaipinis Rapid, Franklin River, Keewatin, near Oxford Lake, fall in stream at, (77-78) p. 5 CC.
- Wapiti River, Smoky River, Atha.. description of and country south of, (79-80) p. 55 B. drift lignite on bars of Mountain Creek, (79-80) p. 124 B. list of Devonian fossils from drift on, (79-80) p. 131 B. silt deposits of, (79-80) p. 140 B.
- Wapoose Island, Mattawagaming Lake, Ont., rocks of, (80-82) p. 4 C.
- Wapoose River, branch of Montreal River, Ont., rocks at mouth of, (75-76) p. 304.
- Wapskehegan River, Tobique Valley, N.B., gypsum beds at mouth of, (66-69) E. p. 202, F. p. 224. mining leases for gold taken out on, (66-69) E. p. 209, F. p. 232.
- Ward Bay, Lake Aylmer, Que., rocks of Gaspé Series at, (1863) p. 430.
- Ward Brook, North-east Margaree River, N.S., pre-Cambrian rocks of, (82-84) p. 24 H.
- Ward Creek, near Sussex Sta., N.B., bituminous shales of, (78-79) p. 16 D.
- Ward's mine, Thetford Tp., Que., note on, (80-82) p. 7 GG.
- Warm westerly winds east of mountains, note by Sir Alexander Mackenzie on, (79-80) p. 76 B.
- WARNER, CHARLES DUDLEY, quoted, (76-77) p. 403.
- Warren Brook, Victoria Co., N.S., pre-Cambrian rocks of, (82-84) pp. 17-18 H.
- Warren Islands, Swan Lake, Man., limestone exposures at, (74-75) p. 60.
- Warren Lake, Ingonish, N.S., Lower Carboniferous sandstones, etc., of, (82-84) p. 46 H.
- Warren's Landing, Lake Winnipeg, variation of compass near, (78-79) p. 72 C.
- Warwick, Ont., wells at Kingstone's mills, (63-66) p. 247. salt-works erected at, (74-75) p. 288.
- Warwick Tp., Ont., bituminous shales of Portage Group exposed at Kingstone's mills, (1863) p. 388. bituminous shales referred to, (1863) p. 785.
- Warwick Tp., Que., copper-ore localities in, (63-66) p. 314.
- Washaback, N.S., Carboniferous rocks of, (76-77) p. 442.
- Washaback, N.S.—*Cont.*
mines of, (76-77) pp. 450-451. salt springs of, (76-77) p. 456.
- Washaback Hills, N.S., general description of, (76-77) p. 405. Laurentian rocks of, (76-77) p. 405. Carboniferous conglomerate of, (76-77) p. 438.
- Washademoak Lake, N.B., succession of Lower Carboniferous rocks on outlet of, (70-71) p. 212. Lower Carboniferous rocks on, (72-73) p. 191-192. lack of rock exposures on, (72-73) p. 213. position and horizon of rocks of, (72-73) pp. 213. valley of, contrasted with Grand Lake, (72-73) p. 213. jasper and chalcedony in rocks of, (72-73) p. 229.
- Washi-saigaan, or Gloucester Lake, Albany River, Ont., (71-72) p. 109.
- Was-kai-ow-a-ka Lake, Little Churchill River, Keewatin, route to and description of, (78-79) p. 14 C.
- Waste of gold in tailings, note by H. Y. Hind on, (70-71) p. 278.
- Waste steam used in evaporating brine at Seaforth, Ont., (74-75) pp. 276-277.
- Water, origin of, tradition among Haida Indians, B.C., (78-79) p. 150 B. from Assiniboine River, Man., taken in 1879, analysis of, (78-79) pp. 10-11 H. of Assiniboine and Red Rivers, taken in 1873, analyses of, (78-79) p. 9 C. from Churchill River, above Kettle Falls, analysis of, (80-82) p. 6 H. of Hayes River, analysis of by Prof. Dittmar, (79-80) p. 77 C. of Nelson River, analysis of, (79-80) pp. 78-79 C. of Ottawa River, general examination and analyses of, (1863) pp. 565-568. of the Red and Assiniboine rivers, report on, with analyses, (78-79) pp. 7-12 C. of Red River, analyses of samples collected in 1879, (78-79) pp. 10-11 H. from Reindeer Lake, Atha., analysis of, (80-82) p. 6 H. of St. Lawrence River, general description and analyses of, (1863) pp. 566-568. from Saskatchewan River, near mouth of Big Stone River, analysis of, (80-82) pp. 6-7 H. from mineral spring at MacMaster's mill, Queensville, N.S., analysis of, (79-80) p. 7 H. of mineral springs in Ontario and Quebec, analyses of, (1863) pp. 532-564. from well north of Brandon, Man., analysis of, (82-84) pp. 18-19 MM. in mines at Cariboo, B.C., (76-77) p. 110. chemical action of in decomposition of sedimentary rocks, (1863) p. 571. mineral, *see* Mineral-waters.

Water—*Cont.*

- supply of, for Montreal, discussion of, with analyses, (1863) pp. 565-568.
- supply of, for Winnipeg, Man., general discussion, with analyses of water from Assiniboine and Red rivers, (78-79) pp. 8-12 C.
- supply of on plains, note on, (74-75) p. 3.
- Waterdown, Flamborough West., Ont., building stone obtained from sandstone of, (1863) p. 316.
- reference to quarry in sandstone, (1863) p. 815.
- Waterfall, on Blackwater River, B.C., description of, (76-77) p. 23.
- on Itasyouco River, B.C., description of, (76-77) p. 28.
- on Salmon River, B.C., description of, (76-77) p. 28.
- see also Falls.*
- for other references see under names of rivers.*
- Waterhen River, Man., length of, (74-75) p. 62.
- Water-lime, *see* Cement.
- Water-lime Formation, as developed in Ontario, (76-77) pp. 238-239.
- Water-lime Group, lower part of Lower Helderberg, characters and distribution of in Ontario, (1863) pp. 353-354.
- wood-cut of *Eurypterus remipes*, from rocks of, (1863) p. 959.
- thickness of, (63-66) p. 237.
- Waterloo, Ont., exposures of upper part of Onondaga Formation at, (1863) p. 347.
- record of boring for salt, bitter water found, (66-69) E. p. 214, F. p. 236.
- Waterloo Co., Ont.:—
- for general geology see Part I., p. 15.*
- Watershed, between Beaver and North Saskatchewan rivers, height of, (79-80) p. 99 B.
- between Blackwater and Nechaco rivers, B.C., (76-77) p. 23.
- between Chilcotin and Nazco rivers, B.C., elevation by railway survey, terminal moraines, (75-76) pp. 240-241.
- between Fraser and Columbia rivers, B.C., the Coldstream Valley, (77-78) p. 58 B.
- between Fraser and Homathco rivers, B.C., character of country, (75-76) p. 239.
- between Fraser and East Homathco rivers, B.C., general description, (75-76) p. 238.
- between Peace River and Lesser Slave Lake, Atha., height of, (79-80) p. 89 B.
- between Skeena and Fraser rivers, B.C., lakes situated on, (79-80) p. 24 B.
- see also Height-of-land.*
- Waterton Lake, Alta., general description of, (82-84) pp. 21-22 C.
- see also Chief Mountain Lake.*
- Waterton River, Alta., width of disturbed belt on, (80-82) p. 3 B.
- general description of, (82-84) pp. 20-23 C.
- Cretaceous and Laramie rocks of, (82-84) pp. 64-66 C.
- note on moraines in valley of, (82-84) p. 145 C.

Waterton River, Alta.—*Cont.*

- large boulders of Huronian quartzite, note on, illustration showing one, (82-84) facing p. 148 C.
- Wa-toon Brook, Masset Inlet, B.C., fossiliferous drift on, (78-79) p. 92 B.
- Watson Brook, N.S., rocks of Coxheath Hills exposed in, (75-76) p. 373.
- section of Carboniferous conglomerates on, (75-76) p. 395.
- analysis of altered felsite, experiments on as firebrick, (75-76) pp. 423-425.
- Watson mine, South Sherbrooke Tp., Ont., iron-ore at base of 5th limestone band, (72-73) p. 161.
- description of, (72-73) pp. 175-176.
- Watson's Corners, Dalhousie Tp., Ont., blotched diorites at, (74-75) p. 145.
- Watsonkwa River, B.C., analysis of coal from, (78-79) p. 14 H, and (79-80) p. 105 B.
- note on vegetation of, (79-80) p. 19 B.
- Watt location, North Burgess Tp., Ont., amount of phosphate mined on, prices, etc., (71-72) pp. 125-126.
- Watt apatite mine, lot 6, R. I., Portland East, Que., openings at, (82-84) pp. 17-18 J.
- analysis of apatite from, (77-78) pp. 6-10 H.
- Watter's quarry, Pictou, N.S., limestone of, (66-69) E. p. 58, F. p. 64.
- Waud, W. B., summary of boring operations conducted by, in Manitoba, (73-74) p. 3.
- report on borings in Manitoba in 1873, (73-74) pp. 12-16.
- Waverley, N.S., statistics of gold for 1869-71, (71-72) p. 150.
- Wa-wash-kaise or Little Deer Lake, Burton Tp., Ont., crystalline limestone of, (76-77) p. 203.
- Waweg Bay, St. Croix River, syenites on peninsula west of, (70-71) p. 52.
- Upper Silurian sandstones of, (76-77) p. 324.
- Waweg Inlet, St. Croix River, N.B., dark-gray syenites of, (70-71) p. 187.
- petrosiliceous rocks of, (76-77) pp. 325-326.
- Wayne Co., N.Y., thickness of Onondaga Formation in, (1863) p. 346.
- Weak brines, evaporation of, (74-75) p. 277.
- Weatherbee's mill, Cumberland Co., N.S., exposures of conglomerates of Millstone Grit at, (73-74) pp. 165.
- Weathered sandstone rocks of Milk River, Alta., illustration showing, (80-82) Frontispiece to Part B.
- Weathering of limestones, peculiarities of at Skincuttle Inlet, B.C., (78-79) p. 53 B.
- Weathering of rocks, *see* Denudation.
- Weather shoal, definition of term as used for gravel-ridges in New Brunswick, (77-78) p. 12 EE.

- WEBSTER, A., summary by A. R. C. Selwyn of results of work of in St. Maurice region, Que., (69-70) p. 8 Summ.
 summary of work for 1873 as assistant to W. E. Logan, (73-74) p. 2.
 observations and surveys made by in 1875, (75-76) p. 29.
 exploration of cañon of Peace River at Rocky Mt. Portage, B.C., (75-76) p. 47.
 measurements made for section at Quesnel, B.C., (75-76) p. 263.
 work in Eastern Townships, Que., during 1876, (76-77) p. 3.
 summary of work by, in Quebec for 1879, (78-79) p. 4.
 summary of work for season 1880 along Maine and New Hampshire boundary, (79-80) p. 5.
 list of latitudes determined by in 1875 in northern British Columbia and Athabasca, (79-80) p. 165 B.
 outline of work for 1881 north of boundary of Maine, New Hampshire and Vermont, (80-82) p. 5.
 resignation of, (80-82) p. 28.
 notes by on gold-bearing rocks of central axis Eastern Townships, Que., (80-82) pp. 3-5 A.
 Webster's location, area No. 101, Pictou, N.S., analysis of hematite from, (73-74) p. 223.
 WEEKS, W. H., assay of silver-ore examined for, (78-79) p. 17 H.
 Weir's mills, Pictou Co., N.S., rocks at, red sandstones, (66-69) E. p. 11, F. p. 12.
 WEIZ, DR. S., list of plants collected by at Hope-
 dale and Nain, Labrador, (82-84) pp. 38-47 DD.
 Welcome Islands, Thunder Bay, Ont., rocks of, (66-69) E. p. 325, F. p. 358.
 Weldford, Kent Co., N.B., glacial striæ at, (80-82) p. 20 D.
 Weldon Creek, Albert Co., N.B., faults in Lower Carboniferous on, (76-77) p. 364.
 Welland Canal, Ont., fall overcome by, (1863) p. 16.
 character of gray-band and Clinton Formation exposed on, (1863) p. 313.
 section of Niagara Formation at Thorold, (1863) pp. 322-323.
 note on Onondaga Formation on, (1863) p. 347.
 Welland Co., Ont., thickness of Onondaga Formation in, (1863) p. 346.
 anticlines in rocks in, (63-66) p. 258.
for general geology see Part I., p. 15.
 Wellesley Tp., Ont., surface deposits of, hardpan, (1863) p. 900.
 Wellington Co., Ont., note on erratic blocks in, (1863) p. 894.
 boring at Eden Mills, (63-66) p. 251.
for general geology see Part I., p. 15.
 Wellington mine, Nanaimo, B.C., section showing average character of Newcastle seam, (76-77) p. 178.
 illustration of engine-house at head of slope, (76-77) facing p. 180.
 coal shipments for 1876, (76-77) p. 180.
 analyses and calorific power of coal from, output for 1883-1884, (82-84) pp. 37-38 M.
see also Dunsmuir mine.
 Wellington mines, Lake Huron, note on copper lodes at, (1863) p. 60.
 note on condition of workings, (1863) p. 695.
 Wellington Square, Ont., Medina sandstone exposed at, (1863) p. 312.
 Wells, in western Ontario, (63-66) pp. 241-253.
 in Winnipeg District, Man., (74-75) p. 48.
 for salt, note on Goderich region, Ont., (76-77) p. 222.
see also Borings and Bore-hole.
 Welsford, N.B., gray syenites of, (70-71) p. 53.
 Welsh Lake, Guysborough, N.S., note on character of rocks of, (79-80) p. 48 F.
 Welshpool, Campo Bello Island, N.B., rocks at, (70-71) p. 131.
 Wendover Tp., Que., copper-ores in diorite of, (1863) p. 243.
 note on copper-ore in diorite, (1863) p. 719.
 copper-ore localities in, (63-66) p. 311.
 WENDT, A., analysis of pig-iron from ore of Iron Ore Hill, N.B., (74-75) p. 104.
 Wentworth Co., Ont., wells near Lake Ontario, record of, (63-66) p. 251.
for general geology see Part I., p. 15.
 Wentworth dyke, Argenteuil Co., Que., total distance traced, width of, (1863) p. 840.
 Wentworth Station, N.S., age of fossiliferous rocks of, list of fossils from, (74-75) pp. 9-10.
 Wentworth Tp., Argenteuil, Que., note on dolerites of, (1863) p. 38.
 intrusive syenite cutting dolerites, (1863) p. 39.
 magnetic iron-ore deposits of, (1863) p. 673.
 deposit of marl in, (1863) p. 766.
 note on serpentinous marble of, (1863) p. 824.
 further details of outcrop of great dolerite dyke of, (1863) p. 840.
 occurrence of graphite in, (63-66) p. 26.
 Wequamekong Bay, Manitoulin Island, Lake Huron, Hudson River escarpment at, (1863) p. 218.
 petroleum springs of, (63-66) p. 179.
 Werner Bay, Juan Perez Sound, Q.C. Is., B.C., felspathic rocks of, (78-79) p. 57 B.
 WEST & Co., openings for graphite in Buckingham, Que., (73-74) p. 141.
 West Arichat, Madame Is., N.S., Devonian rocks of, (79-80) p. 36 F.

- West Arm, Cumsheewa Inlet, B.C., persistent limestone band outcropping at, (78-79) p. 62 B.
- West Bay, N.S., exposures of syenite at Ross Creek, (79-80) p. 15 F.
exposures of crystalline limestone on shores of, (79-80) pp. 18-19 F.
fringe of Carboniferous from Cape George to Ross Creek, (79-80) p. 65 F.
note on copper-ore localities near, (79-80) p. 123 F.
- West Bay, N.B., section to Queens County line on map, geologically coloured, (78-79) accompanying Part D.
- West Bay, Bonne Bay, Nfld., thickness of series of rocks on, (1863) p. 868.
- West Bay to Echo Rock, Lake Nipigon, Ont., terrace of gravel and sand, (66-69) E. p. 354, F. p. 391.
- West Bay, Manitoulin Island, Ont., dolomite band, base of Clinton exposed on, fossils of, (1863) p. 320.
- West Beach, St. John Co., N.B., succession of Coastal rock series, (70-71) p. 98.
red hematite in Huronian rocks of, (70-71) p. 223.
vein of magnesite in chlorite schist of, (70-71) p. 237.
hematite in conglomerate rocks of, (73-74) p. 214.
- West Butte, Sweet Grass Hills, Montana, U.S.A., rocks of Belly River Series exposed near, (82-84) pp. 41-42 C.
beds surrounding central mass, fossils of, stratified mass included in igneous nucleus, (82-84) pp. 47-48 C.
- West Canada Copper Co., statistics for 1869-71, (71-72) p. 147.
- West Cliff, Anticosti Island, Que., height of, (1863) p. 223.
trap dykes at, (1863) p. 224.
- West coast of America, note on early voyages of discovery on, (78-79) pp. 4-14 B.
of British Columbia, meteorological observations during 1878, (78-79) pp. 224-232 B.
- West Coast flora of British Columbia, note on, (79-80) p. 168 B.
- West fault, Pictou coal-field, N.S., note on, (66-69) E. p. 73, F. p. 81.
part of Culton seam found in, (66-69) E. p. 79, F. p. 88.
continuation northward, (66-69) E. p. 81, F. p. 90.
amount of coal cut off Acadia seam by, (66-69) E. p. 103, F. p. 116.
in vicinity of Nova Scotia colliery, (66-69) E. p. 104, F. p. 117.
- West Hawkesbury Tp., Ont., deposit of marl in, (1863) p. 765.
- West Mountain, Grimsthorpe, Hastings Co., Ont., (72-73) p. 140.
- West Musquash River, St. John Co., N.B., granitoid beds of Coastal Series, (70-71) p. 92.
granite hills on, above Sherwood Lake, N.B., (70-71) pp. 184-185.
- West Narrows, Skidegate Channel, Q.C. Is., B.C., tide in, depth and width of, (78-79) p. 31 B.
- West Pirate Harbour Brook, N.S., Devonian rocks of, (79-80) p. 42 F.
- West Point, Port Daniel, Que., rocks of, (1863) p. 445.
- West Point, Nfld., argillaceous limestone with remains of a small *Lingula* at, (1863) p. 871.
- West River, near Quesnel, B.C., benches on, (76-77) p. 18.
depth of valley, width of stream, (75-76) p. 33.
- West River, Nelson River, Keewatin, character of, (77-78) p. 14 CC.
- West River, Port Daniel, Que., exposures of limestone on, (1863) p. 445.
- West Sheffield, Que., analysis of trachyte from Brome Mt., (1863) p. 656.
- Westbury, Que., slates in Silurian rocks suitable for roofing, (1863) p. 831.
- Westbury Tp., Que., analysis of argillite from, (1863) p. 617.
- Western cedar of British Columbia, note on distribution and size of, (79-80) pp. 170-171 B.
- Western Extension Ry., Huronian Series in Kings Co., N.B., on, (70-71) p. 112.
section of Huronian near Belyea's Inn, (70-71) p. 113.
upper series of pre-Carboniferous, the pale argillite series, (70-71) p. 199.
- Western hemlock, distribution and size of in British Columbia, (79-80) p. 170 B.
- Western interior flora of British Columbia, note on, (79-80) p. 168 B.
- Western Islands, mouth of Passamaquoddy Bay, Coastal Series on, (70-71) p. 88.
- Western larch, distribution of in British Columbia, (79-80) p. 175 B.
- Western Ontario, general description of plateau of, (1863) pp. 15-16.
- Western range of plants found in basin of Moose River and on Michipicoten River, Ont., (80-82) pp. 17-18 C.
- Westfield Parish, N.B., gravel ridges of, (77-78) p. 14 EE.
- Westfield, N.B., width of Silurian belt in, section near, (77-78) pp. 2-3 E.
- Westmann's furnace for roasting and desulphurizing ores, (66-69) E. p. 249, F. p. 276.
- Westmeath Tp., Ont., mineral springs in, (1863) p. 547.
peat deposits in, noted, (1863) p. 780.
Silurian rocks of, (76-77) p. 277.

- Westmoreland Co., N.B., localities in for copper-ores, (70-71) p. 227.
note on copper ores of, (80-82) p. 23 D.
and Albert Cos., N.B., Lower Carboniferous and Albert shales, report by L. W. Bailey and R. W. Ellis, with map, scale 1 m.=1 in., (76-77) pp. 350-401.
- Westmoreland road, St. John, N.B., Laurentian rocks exposed on, (70-71) p. 40.
- Weston, Ont., exposures of Hudson River Formation noted at, limestone, (1863) p. 213.
- Weston, T. C., fossils collected at St. Denis and Bic Harbour, Que., (66-69) E. p. 129, F. p. 144.
collection of fossils from Potsdam rocks, note on, (70-71) p. 10.
collections made in 1871 at Bic, Que., and Hespeler, Ont., (71-72) p. 14.
microscopic section of fossils of Departure Bay, B.C., prepared by, (71-72) p. 82.
fossils collected during 1872-73, (72-73) p. 2.
report on work by for 1872-73, (72-73) p. 5.
work of 1873, collection of fossils from Eastern Townships, Que., and Arisaig, N.S., (73-74) p. 6.
number of fossils collected from Guelph Formation of Ontario, (74-75) p. 11.
number of fossils collected at Temiscouata Lake, Que., (74-75) p. 11.
description of coprolites from Macintosh Brook, N.S., (76-77) p. 433.
work done in 1877-78, (77-78) p. 7.
summary of work of, for 1879, (78-79) p. 5.
work by, in Museum during 1880, (79-80) p. 8.
work by, in removal of Museum to Ottawa, (80-82) p. 2.
work by during 1881, (80-82) pp. 9-10.
examination of formations from Sault Ste. Marie eastward referred to, (80-82) pp. 17-18.
microscopic slides prepared by, in 1882, (80-82) p. 23.
fossils collected by in 1882, (80-82) p. 24.
discovery of outliers of Utica and Hudson river rocks on coast of Gaspé, (80-82) p. 16 DD.
summary of work of for year 1883, (82-84) pp. 3, 16-17.
- Westport Mountains, Ont., rocks of, fault south of, (72-73) p. 163.
- Westroad River, or Blackwater, B.C., width at ford, depth of valley, (75-76) p. 33.
to Nechacco River, B.C., elevation of country, (75-76) p. 32.
- Whale Cove, Grand Manan Island, N.B., Triassic rocks of, (70-71) p. 219.
to Flagg Cove, pre-Cambrian rocks exposed, (70-71) p. 102.
- Whale Cove, Inverness Co., N.S., Coal Measures exposed on coast at, (82-84) p. 75 H.
- Whale Point, St. Lawrence River, Sillyery sandstones of, pillars, (1863) p. 263.
- Wheat product of Peace River, Atha., limiting conditions of, (79-80) p. 75 B.
- Whelphy Beach, Long Reach, N.B., amygdaloid of Silurian belt exposed at, (77-78) p. 1 E.
- Whetstones, sandstones suited for, localities in Ontario and Quebec, Lake Memphremagog rocks noted, (1863) p. 809.
rocks suitable for, at Bridgewater, Ont., (63-66) p. 107.
samples obtained from Hastings Co., Ont., (66-69) E. p. 157, F. p. 174.
of Kennebec Tp., Ont., near Cross Lake, reference to, (70-71) p. 315.
of Madoc Tp., Ont., reference to, (70-71) p. 315.
of Manitoulin Island, Ont., (66-69) p. 178.
- Whetstone Brow, Little River, Sunbury, N.B., fossiliferous shales of, (72-73) p. 211.
- Whiffin Spit, Sooke, B.C., rocks at, (76-77) p. 190.
- Whipsaw Creek, B.C., description of Osoyoos Lake trail and valley of, (77-78) pp. 48-49 B.
description of rocks of, Triassic fossils, (77-78) pp. 65-66 B.
gold workings on, (76-77) p. 135.
diagrammatic section on, (77-78) facing p. 174 B.
crystalline rocks of upper waters of Similkameen River, B.C., gravel beds, (82-84) p. 17 B.
- Whiskey-jack Mountain, Nelson River, Keewatin, height of, (77-78) p. 18 CC.
- Whiskey-jack Portage, Nelson River, Keewatin, character of county, (77-78) p. 18 CC.
- Whitby Tp., Ontario Co., Ont., exposures of Trenton in, (1863) p. 189.
outcrops of Utica shale in, (1863) p. 210.
mineral springs in, location of, analysis of water, (1863) p. 547.
- WHITE, J., work of in removal of Museum of Survey to Ottawa, (80-82) p. 2.
- White ash, note on northern limit of in Canada, (79-80) p. 52 C.
- White Bear Island, Hudson Bay, occurrence of hydraulic cement-stone on, (77-78) p. 23 C.
- White Bear Lake to Hair-cutting Lake, headwaters St. Maurice River, Que., character of country, (70-71) p. 300.
- White Beaver Lake, Montreal River, Ont., diorites of, topography of, (75-76) p. 298.
- White birch, *Betula alba*, note on range of, (79-80) p. 55 C.
- White Birch Hill, Bear Brook, Ogden road, N.B., pre-Carboniferous rocks of, the dark argillite series, (70-71) p. 192.
- White bricks, clay for, general note on, (1863) p. 801.
clay in Ontario for making, (1863) p. 898.
- White Brook, Inhabitants Basin, N.S., Carboniferous rocks of, (79-80) p. 70 F.

- White Cedar, northern limit of, occurrence on Lake Winnipeg and Cedar Lake, Sask., (78-79) pp. 42-43 C.
note on northern range of in Canada, (79-80) p. 47 C.
- White Cliff, Anticosti, Que., dip of beds at, section of rocks, (1863) p. 300.
- White dolomite of Palmerston Tp., Ont., analysis of, (74-75) p. 132.
- White elm, note on northern limit of in Canada, (79-80) p. 48 C.
- White-fish Lake, Ont., copper-ores in greenstones, (1863) p. 697.
- White granite, on Flinton road, Hastings, Ont., (72-73) p. 139.
- White Granite Hill, Pic River, Ont., mass of light grey gneiss, (70-71) p. 329.
- White Granite Hills, Cape Breton Co., N.S., granite of, copper-pyrites, (77-78) p. 6 F.
note on building and ornamental stone of, (77-78) p. 30 F.
- White Head or Cape, Percé, Que., rocks composing, fossiliferous limestones, fossils found, (1863) p. 439.
unconformity between Devonian and Carboniferous rocks at, (80-82) p. 2 DD.
rocks of Lower Devonian exposed beneath Carboniferous at, (80-82) p. 8 DD.
- White Head Island, East of Grand Manan Island, N.B., note on quartzite, (70-71) p. 110.
- White Horse Rapids, Rivière des Prairies, Que., trough of Trenton with Utica shales at, (1863) p. 142.
exposure of Lower Helderberg conglomerates at, (1863) p. 357.
peculiarities of conglomerate rocks of, (1863) p. 626.
- White Island, mouth of Passamaquoddy Bay, N.B., conglomerates of, (70-71) p. 90.
- White Lake, Darling Tp., Lanark, Ont., dolomite series at, (74-75) p. 135.
- White Lake, McNab Tp., Ont., marl deposits in, (1863) p. 765.
- White Lake, Sheffield Tp., Ont., marl deposits in, (1863) p. 764.
- White Lake and Boltons Creek band of crystalline limestone, Lanark Co., Ont., character and distribution, (73-74) p. 104.
- White Mountain, Adstock Tp., Que., diorite rocks constituting, (1863) p. 254.
- White Mountains, Vt., ancient sea-beaches at great elevation, (1863) p. 929.
- White Mud Creek, Assiniboine River, Man., Cretaceous marl at crossing of, (74-75) p. 29.
- White Mud Creek, B.C., plants of height-of-land, (75-76) p. 139.
- White Mud Falls, Nelson River, Keewatin, description of, with illustration showing southern channel, (77-78) p. 14 CC.
- White Mud Rapid, Nechacco River, B.C., rocks at, (76-77) p. 83.
- White Mud River, Man., character of valley, timber and surface soil, (74-75) pp. 27, 50.
visit of Dr. Selwyn to in 1882 noted, (80-82) p. 18.
to Victoria, Alta., character of country, (79-80) p. 99 B.
- White Mud River or Frenchman Creek, trib. of Missouri River, Assa., fossil bones reported in Cypress Hills near, (73-74) p. 74.
sections in, (79-80) p. 38 A.
weathering of Cretaceous shales at 49th parallel, (79-80) p. 38 A.
fossils of Pierre or Cretaceous No. 4, at, (79-80) pp. 38, 40 A.
- White Mud River, branch of Peace River, character of county drained by, (79-80) pp. 59-60 B.
- White oak, range of in Canada, note on, (79-80) p. 52 C.
- White pine, note on northern limit of in Canada, (79-80) p. 49 C.
- White Pine Narrows, Lac Seul, English River, Ont., Hudson's Bay Co's Post at, (72-73) p. 102.
- White Point, Aspy Bay, N.S., rocks of coast south of, (82-84) p. 19 H.
- White Point, Crescent Inlet, Darwin Sound, Q.C. Is., B.C., rocks of, (78-79) p. 58 B.
- White Point, Murray Bay, Que., Potsdam sandstone of, (1863) p. 96.
- White River, Algoma, general description of, (70-71) pp. 343-345.
level wooded country, gneisses and Huronian schists, (70-71) p. 345.
list of portages on, (70-71) p. 346.
map of on map of Moose River, accompanying, (80-82).
- White Sand River, Lake Nipigon, Ont., terrace of fine sand, (66-69) E. p. 354, F. p. 392.
- White Sand River, Lake Superior, zinc contained in sphalerite from, (80-82) p. 15 H.
- White sandstones of upper part of Upper Copper-bearing rocks of Lake Superior, general note on, (1863) p. 70.
- White silt in British Columbia, significance of, (77-78) p. 153 B.
deposits of in southern British Columbia, localities and mode of formation, (77-78) pp. 142-145 B.
at Fort St. James, Stuart Lake, (79-80) p. 137 B.
in valley of Upper Nechacco River, (76-77) p. 43, 44.
southern edge of, near Blackwater River, (76-77) p. 53.
- White spruce, note on northern limit of, on Hudson Bay and Mackenzie River, (78-79) p. 41 C.
note on distribution northward in each province, (79-80) p. 44 C.
- White-water River and Molson Lake, Nelson River, Keewatin, description of, (79-80) pp. 6-7 C.

- Whitechurch Tp., Ont., note on boulders of, (1863) p. 895.
- WHITEAVES, J. F., notes and descriptions by of Cretaceous fossils from Vancouver Island, B.C., collected by Jas. Richardson, (73-74) pp. 260-268.
 note on age of Cretaceous deposits of Vancouver Island, B.C., (73-74) p. 265.
 description of *Lucina Richardsonii*, (73-74) p. 266.
 description of *Conchocele cretacea*, (73-74) p. 266.
 description and figure of *Astarte cardinioides*, and *Astarte Vancouverensis*, (73-74) p. 267.
 description and figure of *Fasciolaria nodulosa*, (73-74) p. 268.
 description and figure of *Tellina Meekiana*, (73-74) p. 268.
 note by, on Cretaceous fossils of Queen Charlotte Islands, B.C., (74-75) p. 12.
 notes by, on some fossils collected by Peace River expedition, (75-76) pp. 96-106.
 notes on Devonian fossils from Mattagami River, Ont., (75-76) pp. 316-320.
 notes on fossils from lowest portage on Missinaibi River, Ont., (75-76) p. 320.
 appointment of on staff of Survey, (76-77) p. 5.
 on Jurassic fossils from British Columbia, (76-77) p. 150-159.
 fossils recognized by from Nanaimo River, Vancouver Island, B.C., (76-77) p. 182.
 provisional list of fossils from Missinaibi River, (77-78) pp. 5-6 C.
 summary report of work of Palæontological branch for 1877-78, (77-78) pp. 6-7.
 list of fossils from Primordial of Porter and Hanford Brooks, N.B., (77-78) pp. 30-31 DD.
 summary of work of Palæontological branch for 1879, (78-79) p. 5.
 list of Tertiary fossils from Graham Island, Q.C.Is., B.C., (78-79) p. 87 B.
 on some marine invertebrata from the Queen Charlotte Islands, B.C., (78-79) pp. 190-205 B.
 notes on Silurian and Devonian fossils from Manitoba and valleys of Nelson and Churchill rivers, (78-79) pp. 45-51 C.
 list of fresh-water mollusca from lakes and rivers of Manitoba and Nelson River, Keewatin, (78-79) pp. 61-62 C.
 microscopical examination of infusorial earth from Pollet River, N.B., (78-79) p. 5 H.
 summary of work of Palæontological branch for 1880, (79-80) p. 7.
 list of fossils collected by R. Bell in Manitoba, 1880, (79-80) pp. 57-58 C.
 list by of the mollusca collected by R. Bell, 1880, (79-80) pp. 75-76 C.
 summary of work of Palæontological branch for 1881, Devonian fishes from Escuminac, Que., (80-82) pp. 9-10.
 papers read at first meeting of Royal Society, (80-82) p. 23.
 collection of shells, purchased for Museum, (80-82) p. 25.
- WHITEAVES, J. F.—*Cont.*
 list of Devonian fishes from Campbellton, N.B., and Scaumenac Bay, described by, (80-82) pp. 9-10 D.
 summary of work of Palæontological branch for 1883, (82-84) pp. 15-17.
 marine invertebrates determined by, from Ashe Inlet and Port Burwell, Hudson Strait, (82-84) pp. 58-60 DD.
- Whitefish Bay, Lake of the Woods, Ont., note on Laurentian and Huronian rocks of, (80-82) p. 15 C.
- Whitefish Lake, north of Lesser Slave Lake, Atha., description of country near, (79-80) p. 90 B.
- Whitefish Lake, Michipicoten River, Ont., syenite and granite of, (75-76) p. 336.
- Whitefish Lake, Thunder Bay District, Ont., lead-ore reported, (66-69) E. p. 358, F. p. 396.
- Whitefish Lake, north of Victoria, Alta., fishing season, settlement at, (79-80) p. 98 B.
- Whitefish Point, Lake Superior, sand dunes at, (1863) p. 905.
- Whitefish River, Ont., note on diorite at base of Huronian, sequence of Huronian rocks near, (1863) pp. 51-52.
- Whitefish River, Thunder Bay District, Ont., (66-69) E. p. 323, F. p. 356.
- WHITNEY, J. D., Vancouver Island coal-bearing rocks referred to Chico Group, (72-73) p. 75.
 analysis of coal from Nanaimo, B.C., in table, (76-77) facing p. 470.
- White or Ferris Cove, Grand Lake, N.B., rock exposures at, (72-73) p. 212.
- White Mountain, mouth of Aroostook River, N.B., diorite dykes of, (70-71) p. 250.
- Whitewater Lake, on watershed north of East Homathco River, B.C., no outlet, height of, (75-76) p. 238.
 exposures of rocks of Cascade Series, (75-76) p. 247.
- Whitewood Lake, International boundary, Ont., syenite of, (72-73) p. 94.
 to Sturgeon Lake, rocks of, (72-73) pp. 96-97.
- Whiteworth Tp., Que., divisions of Potsdam Formation in, (66-69) E. p. 129, F. p. 144.
- Whool-tan or Kwa Lake, B.C., situation of, (76-77) p. 51.
- Whycocomagh, N.S., reference to reports on calcites of, (79-80) p. 32 F.
 assay of copper-ore from, (79-80) p. 17 H.
 sandstones, etc., of Lower Carboniferous, (82-84) p. 43 H.
 note on copper-ore from near, (82-84) p. 94 H.
- Whycocomagh and Mullach felsites in Skye and Salt Mts. and McKay Brook, northern part of Cape Breton Island, N.S., (82-84) p. 7 H.
- Whycocomagh iron-ore, analysis of by Prof. Noad, (75-76) p. 415.

- Whycocomagh iron-mine, N.S., preliminary examination of, occurrence of ore, facilities for shipping, character of ore, (73-74) p. 180.
partial analysis of hematite from, (73-74) p. 225.
- Whycocomagh Map-sheet, N.S., issued 1884, scale 1 m. = 1 in.
- Wia-sitch-ewan Falls, near Missinaibi Lake, Ont., light-coloured clay near, (80-82) p. 8 C.
- Wia-sitch-ewan River, Missinaibi Lake, length, course and character of, (80-82) p. 8 C.
- Wickham mine, Que., copper-ores of, extent of workings, (1863) p. 718.
- Wickham Parish, Queens Co., N.B., details of St. John Group in, (70-71) p. 142.
upper series of pre-Carboniferous rocks, pale argillite series, (70-71) p. 199.
Lower Carboniferous rocks of, (70-71) p. 212, and (72-73) p. 191.
three bands of Silurian rocks in, (75-76) p. 358.
Devonian outliers referred to, (75-76) p. 368.
- Wickham Tp., Que., variegated copper-ore found in, (1863) p. 713.
copper-ore localities in, (63-66) p. 309.
analysis of hydraulic limestone from, (74-75) p. 311.
- Widder Station, Ont., clay beds of Hamilton Formation, with fossils of, (1863) p. 385.
record of well at, (63-66) p. 248.
collection of fossils from vicinity of Widder, presented by Rev. H. Currie, (80-82) p. 23.
- Widow Ghisholm seam, McLellan Brook, Pictou, N.S., (66-69) E. p. 19, F. p. 21.
- Widow McLean seams, Pictou, N.S., character of coal, (66-69) E. p. 36, F. p. 40.
probable horizon of, (66-69) E. p. 41, F. p. 46.
third and fourth seams, (66-69) E. p. 38, F. p. 43.
ten-foot coal-seam, Pictou, N.S., (66-69) E. p. 37, F. p. 42.
thirteen-foot coal-seam, (66-69) E. p. 38, F. p. 42.
- Width of disturbed belt east of Rocky Mountains in Alta., (80-82) p. 3 B.
- Wiggins Cove, Grand Lake, N.B., vertical cliffs of sandstone and shale of, (72-73) p. 212.
- Wild Goose Creek, North Thompson River, B.C., (71-72) p. 33.
- Wild Horse Creek, B.C., gold-workings on, (76-77) p. 140.
- Wild plum, northern limit of in Canada, (79-80) p. 54 C.
- Wilkes tunnel, Robinson Creek, Q.C.Is., B.C., (72-73) p. 59.
- Wilkie Brook, Aspy Bay, N.S., pre-Cambrian rocks of, (82-84) p. 19 H.
Lower Carboniferous rocks of, (82-84) p. 46 H.
- Willemite, occurrence of, in New Jersey, (63-66) p. 206.
- Williams Beach, Long Reach, N.B., character of amygdaloid of Silurian, (77-78) p. 1 E.
- Williams Creek, B.C., gold workings on, (76-77) p. 134.
- Williams mine, Marmora, *see* Cooke mine.
- Williams, Dean & Co's mine, Marmora, Ont., assay of gold-ore from, (71-72) p. 141.
- Williamsburgh Tp., Ont., Trenton limestone exposed in, probably Birdseye and Black River, (1863) p. 173.
- WILLIAMSON, PROF., analyses of water from well in Kingston, Ont., (1863) p. 539.
- Williamson's hemlock, occurrence of in British Columbia, (79-80) p. 170 B.
- Williamstown, Chateauguay Co., Que., sandstone suitable for glass making, (1863) p. 801.
- Willie Fraser coal-seam, on coast of Sydney Harbour, N.S., section of, (74-75) p. 228.
- WILLIMOTT, C. W., work by for 1879, (78-79) p. 5.
work by for year 1880, (79-80) p. 8.
work by in removal of Museum of Survey to Ottawa, (80-82) p. 2.
work by distributing minerals and visiting mines, 1882, (80-82) p. 27.
notes on mines of Province of Quebec, (80-82) pp. 1-14 GG.
note on work of for 1883, (82-84) p. 22.
notes on mines in Ontario, Quebec and Nova Scotia, (82-84) pp. 5-28 L.
- Willow, appearance of north of Churchill River, Keewatin, (78-79) p. 43 C.
- Willow Creek, Belly River, Alta., description of valley of, (82-84) p. 27 C.
note on exposures of Willow Creek beds in vicinity of Macleod-Calgary trail, (82-84) p. 78 C.
- Willow Creek Series of Laramie, note on, general characters of in Alta., (80-82) p. 5 B.
note on thickness and origin of, (82-84) p. 113 C.
junction with St. Mary River Series on Old Man River, Alta., (82-84) p. 67 C.
of Belly Butte, section of, (82-84) p. 63 C.
represented on Bow River, (82-84) p. 83 C.
of plateau North Branch, Milk River, (82-84) p. 37 C.
of Old Man River, near Fort Macleod, (82-84) p. 67 C.
on Pincher Creek, (82-84) p. 97 C.
on St. Mary River, (82-84) p. 57 C.
on Waterton River, estimated thickness and attitude of, (82-84) pp. 46, 65 C.
of Willow Creek and Macleod-Calgary trail, (82-84) p. 78 C.
- Willow Grove settlement, Simonds Tp., N.B., pre-Silurian rocks of, (77-78) p. 11 DD.
- Willow River, Fraser River, B.C., conglomerate rocks of, (75-76) p. 67.
gold workings on branches of, (76-77) pp. 135-136.

- WILSON, DR. JAS., reference to geological and mineralogical work by, (1863) xi.
reference to supposed fossils of Laurentian found by at Perth, Ont., (1863) p. 48.
wood-cut showing tracks on Potsdam sandstone discovered by, (1863) p. 107.
- WILSON, HUGH, P.L.S., information from on Blake Tp., Ont., (72-73) p. 92.
- Wilson Beach, Campo Bello Island. N.B., rocks at, (70-71) p. 131.
- Wilson mine, Wakefield, Que., note on character of apatite, progress in, (80-82) pp. 9-10 GG.
date of closing, total yield, (82-84) p. 18 L.
- Wilson mine, South Head Cow Bay, N.S., equipment, extent of workings, area, etc., (74-75) p. 211.
- Wilson Tp., Ont., crystalline limestone in, (76-77) p. 203.
- Wilsonite, opinions as to origin and nature of, (77-78) p. 33 G.
from Bathurst Tp., Ont., description and analysis of, (1863) p. 483.
occurrence in Bathurst Tp., Ont., (63-66) p. 208.
of apatite-deposits of Ottawa Co., Que., (77-78) p. 33 G.
occurrence of at High Rock mine, Portland Tp., Que., (82-84) p. 10 J.
- WINCHELL, ALEX., table extracted from report on geology of Michigan, (66-69) E. p. 244, F. p. 268.
referred to, (76-77) p. 240.
- Winchelsea Islands, B.C., syenite of, (71-72) p. 90.
- Winchester Tp., Ont., exposures of black Trenton limestones, (1863) p. 173.
- Windham Tp., Ont., limonite deposits of, (1863) p. 683.
boulders of Devonian limestone and Laurentian gneiss, on surface of, (1863) p. 894.
- Windigo Bay, Lake Nipigon, Ont., shores of, (66-69) E. p. 347, F. p. 384.
extent of good land west of, (66-69) E. p. 356, F. p. 394.
- Windigo Islands, Lake Nipigon rocks of, (66-69) E. p. 347, F. p. 384.
- Wind-marks on sandstone of Potsdam Group, note on, (1863) p. 107.
- Windsor, Ont., longitude of determined by E. D. Ashe, (1863) p. 9 Atlas.
- Windsor River, Que., clay-slates of Gaspé Series on, (1863) p. 436.
copper-ore localities on, (63-66) p. 314.
- Windsor village or Port Whitby, Whitby Tp., Ont., outcrop of Utica shale at, (1863) p. 210.
- Windy Lake, Franklin River, Keewatin, character of county around, (77-78) p. 5 CC.
- Windy Lake, north of Pine Island Lake, Sask., limestone cliffs on, (79-80) p. 11 C.
- Wine Harbour, N.S., statistics of gold for 1869-71, (71-72) p. 150.
- Wingfield Basin, Cabot Head, Lake Huron, ridges of shingle above lake, (1863) p. 912.
- Winnipeg, Man., note on brick-clays and deep wells, (74-75) p. 48.
the water supply of, with analyses of water of Red and Assiniboine rivers, (78-79) pp. 8-12 C.
- Winnipeg Consolidated mine, Big Stone Bay, Lake of the Woods, Ont., description of veins and work done, (82-84) pp. 11-12 K.
assays of ores from, for gold and silver, (82-84) pp. 13-14 MM.
- Winnipeg Lake, evidence of basin covering first prairie steppe, (74-75) p. 49.
evidence of a possible former communication with the sea, (74-75) p. 50.
notes on climate and timber of, (77-78) pp. 28-29 CC.
see also Lake Winnipeg.
- Winnipeg River, Man., probable Huronian rocks above Jacks Falls, (72-73) p. 15.
extract from Keating's report on, (72-73) p. 15.
stratified deposits of lower part, sections, (72-73) p. 17.
notes by H. Y. Hind on valley of, (72-73) p. 17.
- Sandy Bay to Rat Portage, rocks of, (72-73) p. 103.
glacial striae on, (74-75) p. 44.
summary of R. Bell's explorations on, (82-84) p. 6.
- Winnipegosis Lake, *see* Lake Winnipegosis.
- Winslow Tp., Que., reference to granite masses in, (1863) p. 430.
- Winter in Peace River district, length of, (79-80) p. 70 B.
- Winter camp of Canadian Pacific Railway exploring party on branch of Canoe River, (71-72) p. 41.
latitude and elevation of, (71-72) p. 45.
- Wintering of cattle, note on possibility of outdoor wintering on plans of North-west Territories, (73-74) p. 60.
- Wintering Hills, Red Deer River, Alta., description of, rocks exposed in, anticline of, (82-84) p. 93 C.
- Wintering Lake, Grass River, Keewatin, routes to Burntwood River and Sipi-weak Lake, (78-79) p. 28 C.
- WISTWELL, Mr., information from on Lower Canada mine, Que., (63-66) p. 41.
- Withered Point, Skidegate Inlet, Q.C.Is., B.C., outlier of conglomerate at, (78-79) p. 65 B.
- Wolf Brook, Bay of Fundy, N.B., section, to Queens County line, geologically coloured on map, (78-79) accompanying Part D.
- Wolf Co., Que.:—
for general geology see Part I., p. 11.
- Wolf Creek, branch of Sooke River, Vancouver Island, B.C., trap rocks at mouth of, (76-77) p. 97.

- Wolf Grove, Lanark Co., Ont., gneiss and limestone series of, (74-75) p. 155.
- Wolf Island, Belly River, Alta., section of drift-deposits at, (82-84) p. 141 C.
diagrammatic section of drift deposits on, (82-84) facing p. 144 C.
- Wolf Island, Magdalen Is., Que., rock composing, (79-80) p. 7 G.
boulders on shore at foot of cliff, (79-80) p. 9 G.
- Wolf Island, Ont., Birdseye and Black River Formation of, referred to, (1863) p. 183.
- Wolf Lake, Anglesea, Addington Co., Ont., granite of, (72-73) p. 141.
- Wolf Lake, Bedford, Ont., extract from A. Murray's report on horizon of iron-ore beds of, (74-75) p. 117.
- Wolfe Cove, Que., red and green shales of Lévis division, (1863) p. 231.
- Wolfe town Tp., Que., dolomite band with copper-ores in, (1863) p. 254.
copper-ore localities in, (63-66) p. 317.
note on asbestus location in, (80-82) p. 7 GG.
- Wolfram, tungstate of iron, found in boulder, analysis of, (1863) p. 503.
- Wollaston iron-mine, Wollaston Tp., Ont., note on operations at, (82-84) p. 11 L.
- Wollaston or Hatchet Lake, Atha., note on discharge two ways, serpentine reported on, (79-80) pp. 15-16 C.
- Wollastonite, note on general description and mode of occurrence, analysis of, (1863) p. 965.
occurrence of in Laurentian, (63-66) p. 206.
white fibrous variety in North Elmsley Tp., Ont., (63-66) p. 228.
occurrence of in Wakefield Tp., Que., locality of, (80-82) p. 13 GG.
- Wolverine Point, Peace River, Atha., fossils in loose rock, (75-76) p. 88.
- Wolves, The, islands in Bay of Fundy, N.B., bands of Coastal rocks in, (76-77) p. 335.
mud deposits near, (77-78) p. 21 EE.
- Wood, Wm., table compiled by, showing opening and closing of navigation at York Factory, Hudson Bay, from 1828-1880, (79-80) pp. 82-83 C.
- Wood, as steam producer, practical trial on Nova Scotia Ry., (66-69) E. p. 403, F. p. 447.
cost of in evaporating brine compared with coal, (74-75) pp. 280-281.
- Wood, fossil, in banks of Goulais River, Ont., in stratified sand and clay, (1863) p. 905.
fossil at Grand Sable, Lake Superior, (1863) p. 906.
- Woodbridge Tp., Que., middle division of Potsdam Formation in, (66-69) E. p. 129, F. p. 144.
- Woodchuck mine, Clearwater Bay, Lake of the Woods, Ont., assay of ore from, (82-84) p. 11 MM.
- Woodcock Landing, North Skeena, B.C., rocks of coast at, (74-75) p. 80.
- Wood-cuts, of branching and irregular apatite-veins in pyroxenite, Templeton, Que., (77-78) pp. 6-7 G.
of banded veins of apatite, Templeton, Que., (77-78) pp. 8-9 G.
of fragment of *Aptychus* (?) (76-77) p. 157.
of dislocated and compressed anticline, in Marble Cañon, B.C., (77-78) p. 90 B.
of columnar markings in limestones at Kingston and Port Dover, Ont., (1863) pp. 632-633.
showing effects of combustion of lignites in Bad Lands, south of Wood Mt., Assa., (79-80) facing p. 32 A.
showing contact of syenite and gneiss near Big Brook, Inverness, N.S., (79-80) p. 16 F.
of "copper" used by Haida Indians, B.C., (78-79) p. 135 B.
showing contact of syenite and calc-schist at Church Brook, Inverness Co., N.S., (79-80) p. 21 F.
of twin crystal of pyrrhotite from Elizabethtown, Ont., (74-75) facing p. 306.
showing large crystal of apatite in calcite, Templeton, Que., (77-78) p. 8 G.
showing dolerite dykes cutting quartzite, at Perkins mill, Templeton, Que., (77-78) p. 4 G.
illustrating geology of Canada, list of, (1863) pp. xxv-xxvii.
showing fragment included in Tertiary volcanic rocks, (77-78) p. 118 B.
of hopper-shaped mould of salt crystal in Onondaga dolomite, (1863) p. 625.
showing inclusions of diorite in syenite from Marble Mountain, Inverness Co., N.S., (79-80) p. 22 F.
showing landslide cutting lignite seam at Souris River, Assa., (79-80) p. 7 A.
showing position of strata on point north of Limestone Islands, on Louise Island, Q.C.Is., B.C., (78-79) p. 56 B.
showing sections of coprolites from Macintosh Brook, N.S., (76-77) p. 433.
showing section of St. John River at mouth of Salmon River, N.B., (82-84) p. 34 GG.
showing section of terrace at Keswick, N.B., (82-84) p. 40 GG.
showing Striped Mountain, Similkameen River, B.C., (77-78) p. 84 B.
of stump and roots of *Sigillaria Sydneensis*, (74-75) p. 196.
for similar subjects see also Diagram, Illustration, and Sketch.
- Wood End depot, International boundary, Assa., section of Lignite Tertiary at, (79-80) p. 21 A.
- Wooded areas of plains, note on causes of growth, (74-75) p. 51.
- Wooded and prairie tracts in vicinity of Bow and Belly rivers, map showing, (82-84) accompanying Part C.
- Wooden trays and troughs used by Haida Indians, B.C., (78-79) p. 141 B, and Plates XII. and XIII.

- Wooden vats used in salt manufacture, description of, (74-75) pp. 276-277.
- Woodhouse and Townsend Tps., Norfolk Co., Ont., thickness of Corniferous Formation in, (1863) p. 364.
- Woodhouse Tp., Ont., clay deposits of, (1863) p. 902.
- Wood Islands, off Grand Manan, N.B., rocks of pre-Cambrian age, (70-71) p. 111.
- Wood Lake, St. Martin Tp., N.B., pre-Silurian schistose rocks of, (77-78) p. 23 DD.
- Woodland buffalo, cause of extinction of on Smoky River, Atha., (79-80) p. 54 B.
- Woodman Brook, Cascapedia River, Gaspé, contact of Devonian and Silurian rocks on, (82-84) p. 20 E.
Silurian rocks overlain unconformably by Devonian, (82-84) p. 26 E.
- Wood Mountain, Assa., saline lakes north of, character of strata exposed in escarpments, lignites, (73-74) p. 79.
thickness of lignite-bearing rocks of, (73-74) p. 85.
analyses of lignites from, (73-74) pp. 92-93.
percentage of iron in clay-ironstone of, (73-74) p. 242.
Lignite Tertiary rocks near, (79-80) pp. 31-32 A.
- Woods Lake, St. John, N.B., greenish quartzite and Huronian rocks of, (70-71) p. 64.
- Woods location, Thunder Bay, Ont., unconformity at base of trap overflow shewn at, (66-69) E. p. 332, F. p. 367.
T. Macfarlane's description of, (66-69) E. p. 361, F. p. 399.
- Woodstock, N.B., rocks exposed on St. John River at, (66-69) E. p. 196, F. p. 218.
Carboniferous outlier north of, (66-69) E. p. 196, F. p. 218.
occurrence of copper sulphurets on St. John River near, (66-69) E. p. 206, F. p. 229.
metamorphic and trappean rocks of, (70-71) p. 249.
H. Y. Hind on hematite of, (73-74) p. 214.
red conglomerates, slates and green crystalline rocks of, (74-75) p. 100.
note on junction of Silurian and Cambro-Silurian south-west of, (82-84) p. 9 G.
contact of formations at, (82-84) p. 17 G.
sections of terraces on St. John River near, (82-84) pp. 28-29 GG.
dimensions of hummocks of till at, (82-84) p. 12 GG.
- Woodstock, Ont., outcrop of Corniferous Formation recorded at, (1863) p. 371.
travertine from recent springs at, (1863) p. 455.
clays for white bricks found at, (1863) p. 898.
thickness of clay at, (1863) p. 903.
- Woodstock furnaces, N.B., character of product, charcoal used as fuel, (66-69) E. p. 207, F. p. 230.
history of, dimensions, charge of, quality of iron produced, (73-74) pp. 251-252.
- Woodstock, N.B.—*Cont.*
location, size of crucible, capacity of engines, cost of charcoal, (74-75) p. 103.
- Woodstock mine, Clearwater Bay, Lake of the Woods, Ont., referred to, (82-84) p. 19 K.
- Woodstock road, St. David Parish, N.B., syenitic gneiss, (70-71) p. 51.
- Woodwards copper-mine, Charlotte Co., N.B., rocks of Kingston Group, (70-71) p. 126.
- Woodward Cove, Grand Manan Island, N.B., rocks on coast from Flaggs Cove, (70-71) p. 106.
- Woolwich Tp., Ont., surface deposits of, hardpan, (1863) p. 900.
- WORK, JOHN, estimate of inhabitants of Q.C. Is. by, 1836-41, (78-79) p. 173 B.
- Work Inlet, B.C., gneissic rocks of, (79-80) p. 100 B.
- Worm burrows in altered argillites, Shumway Lake, B.C., (77-78) p. 79 B.
in Potsdam sandstone, (1863) p. 101.
- Wotton Tp., Que., copper-ore localities in, (63-66) p. 315.
- Wrangel, Alaska, *see* Fort Wrangel.
- Wreck Cove Brook, north end Cape Breton Island, N.S., felsite rocks of, (82-84) p. 20 H.
- WRIGHT, G. B., information from on gold workings of Cassiar District, B.C., (76-77) p. 138.
- Wright Head, Beaver Harbour, N.B., Coastal rocks of Huronian at, (70-71) p. 85.
- Wright Island, Rideau Lake, Ont., limestone bands, (72-73) p. 171.
- Wright's mine, Barkerville, B.C., assay of quartz from, (76-77) p. 477.
- Wright's mine, Wolfstown Tp., Que., note on, (80-82) p. 7 GG.
- Wrinkles on surface of trap at St. Ignace Is Lake Superior, note and diagram showing, (1863) pp. 71-72.
- WURTELE, L. T., work performed by, for Survey previous to 1863, (1863) p. v.
- WURTZ, PROF. H., referred to, (76-77) p. 235.
- Wurtz's process of amalgamation, note on, (63-66) p. 80.
- Wyandotte works near Detroit, U.S.A., charcoal used per ton of iron, (66-69) E. p. 256, F. p. 283.
- Wyld Cove, Strait of Canso, N.S., flags and shales of vicinity, (79-80) p. 43 F.
- Wyoming coal-mines, U.S.A., extracts from report by Prof. Hodge on, (73-74) pp. 54-56.
- Yacta Point, Scaumenac Bay, Que., Devonian rocks of, (79-80) p. 13 D.
- Ya-kan Point, Graham Island, Q.C. Is., rocks of, lignite, (78-79) p. 86 B.
- Ya-koun River, Masset Inlet, Q.C. Is., B.C., description of old route to Skidegate, (78-79) p. 37 B.

- Yale, B.C., rocks of Cascade Crystalline Series near, (71-72) p. 63.
plants of the vicinity of, list of, (75-76) pp. 118-119.
elevations of terraces near, (77-78) p. 148 B.
to Boston Bar, character of vegetation, (75-76) p. 120.
to Kamloops, Journal of A. R. C. Selwyn, (71-72) pp. 21-24.
- Yamachiche River, Que., mineral spring on, (1863) p. 536.
deposits of ochre referred to, (1863) p. 769.
- Yamaska Co., Que., the Utica and Hudson River Formations in, (1863) p. 205.
- Yamaska Mountain, Que., exposures of Sillery sandstone at base of, referred to, (1863) p. 243.
analysis of feldspar from trachyte of, (1863) p. 479.
partial analysis of sphene from, (1863) p. 502.
examination and reference to analysis of feldspar from trachyte of, (1863) p. 657.
description of diorite from, (1863) p. 663.
- Yamaska River, Que., the Hudson River Formation exposed on, (1863) p. 209.
- Yan, Indian village, Masset Inlet, Q.C.Is., B.C., description of, (78-79) p. 163 B.
- Yankee Bay, McKay Lake, Algoma, Ont., greyish syenite, (70-71) p. 333.
- Yankee mine, South Crosby Tp., Ont., workings at, iron-ore mined, etc., (71-72) p. 122.
partial analysis of titanite iron-ores from, (71-72) p. 123.
reference to, (70-71) p. 312.
presence of pyrites with ore, (73-74) p. 203.
- Yankee and Chaffey mines, Ont., cost of labour and mining ore at, (73-74) pp. 242-244.
production of iron-ore at, (73-74) p. 257.
- Yarmouth, N.S., group of rocks of different age to eastern gold series, (70-71) p. 271.
quartz rock interstratified with green schists, (70-71) p. 272.
assay of tailings from gold-mines, (70-71) p. 279.
- Ya-tza Indian Village, Virago Sound, Q.C.Is., B.C., situation of, (78-79) p. 39 B.
description of, (78-79) pp. 162-163 B.
- Yellow birch, note on northern limit of in Canada, (79-80) p. 50 C.
- Yellow Cypress, distribution of in British Columbia, (79-80) p. 174 B.
- Yellow gravels of Blackwater River, B.C., (75-76) p. 263.
- Yellow Head, Gaspé Bay, Que., section of sandstone series at, (1863) pp. 394-396.
rocks of Bonaventure Formation commencing at, (1863) p. 437.
- Yellow Island, south of Denman Island, B.C., Lower Conglomerate on, (72-73) p. 47.
- Yeo Island, Thousand Islands, Ont., note on deposit of tourmaline on, (1863) p. 492.
- Yew, occurrence of in British Columbia, (79-80) p. 175 B.
- Yield of gold on Cherry Creek, B.C., (77-78) p. 159 B.
- Yield of iron from bog iron-ore, (73-74) p. 235.
- Yield of Sydney mines, N.S., from 1785 to 1827, (72-73) p. 242.
- Yield of quartz veins, Australian gold mines, (82-84) pp. 21-22 K.
- Yiko River, B.C., end of portage from Babine Lake, latitude of, (79-80) p. 28 B.
rocks of small island at mouth of, Tertiary in age, (79-80) p. 106 B.
- Yoldia sp., note on specimen from Itasyouco River, B.C., (76-77) p. 154.
- Yonge Tp., Ont., Calciferous Formation in, (1863) p. 118.
marl deposits in, (1863) p. 765.
- York, Ont., limestone in Onondaga carrying galena, (1863) p. 348.
section of Onondaga Formation near Mount Healey, (1863) p. 348.
note on gypsum deposit at Aikman's plaster-bed, (1863) p. 349.
- York on Grand River, Ont., gypsum deposits referred to, (1863) p. 762.
- York Co., Ont., for general geology see *Part I.*, p. 15.
- York Co., N.B., map of, scale 8 m. = 1 in., (66-69) facing E. p. 173, F. p. 191.
Carboniferous area of general dip, soils produced, (66-69) E. p. 178, F. p. 196.
the slate band south of granitic area, report by Chas. Robb on, (66-69) E. pp. 186-193, F. pp. 206-214.
central granitic area of, report by Chas. Robb, (66-69) E. pp. 193-195, F. pp. 214-217.
economic minerals of, by Chas. Robb, (66-69) E. pp. 204-209, F. pp. 227-232.
supplementary report on, by Chas. Robb, (70-71) pp. 241-249.
the Carboniferous area in, (70-71) pp. 242-244.
slate band south of near granite area, (70-71) pp. 244-245.
granite area of, (70-71) pp. 245-247.
contact of granites and slates series, (70-71) p. 247.
slate band north-west of granite area characters of, (70-71) p. 247.
glacial striae in, localities noted, (77-78) p. 5 EE.
assay of galena from east of St. John River, (78-79) p. 18 H.
report on explorations and surveys for 1881-83 of southern part of, by L. W. Bailey, (82-84) pp. 5-31 G.
note on soils of districts underlain by Cambro-Silurian, (82-84) p. 12 G.
description of southern belt of Cambro-Silurian in, distribution, soil, surface features, etc., (82-84) pp. 21-23 G.
list of glacial striae and general direction of ice movement, (82-84) pp. 8-9 GG.
map of part of on Fredericton Map-sheet issued in 1884.

- York and Carleton Cos., N.B., report on surface geology of, (82-84) pp. 5-47 GG.
note on building stones, (82-84) pp. 30-31 G.
- York Factory, Hudson Bay, evidence of rising of land around Hudson Bay, (77-78) p. 25 CC.
pike-perch found at identified, (78-79) p. 6 C.
Devonian fossils found loose at, list of, (78-79) p. 51 C.
variation of compass at, (78-79) p. 72 C.
note on date of arrival of ship at, (79-80) p. 3.
anchorage for ships at, (79-80) p. 4 C.
view looking out to sea, illustration, (79-80) facing p. 16 C.
list of plants collected by R. Bell in 1880 at, (79-80) pp. 59-69 C.
list of coleoptera collected at, in 1880, (79-80) pp. 70-71 C.
table of seasonal or periodic events at, from 1875-1879, (79-80) pp. 80-81 C.
table showing opening and closing of navigation on Hayes River, from 1828-1880, (79-80) pp. 82-83 C.
table of arrival and sailing of H. B. Co's vessels, from 1789 to 1880 (79-80) pp. 84-88 C.
table of meteorological observations at, for 1876 and 1878, (79-80) pp. 94-101 C.
list of plants from, (82-84) pp. 38-47 DD.
to London, notes on voyage of 'Ocean Nymph' by R. Bell, (79-80) pp. 16-27 C.
- York Harbour, Newfoundland, reference to anorthosite rocks of, (1863) p. 66.
- York River, Gaspé, Que., exposures of Gaspé Series on, (1863) p. 408.
localities yielding petroleum on, (1863) p. 789.
mineral resin in rocks of, analysis of, (1863) p. 792.
breadth of Gaspé limestones on, (1863) p. 882.
Point Peter anticline on, petroleum-bearing beds above Keg Brook (1863) p. 883.
exposures of sandstones above Keg Brook, (1863) p. 884.
fossils of sandstones on, fossil plants, (1863) p. 885.
sea-terrace on, (1863) p. 922.
fossils representing lower division of Devonian, (80-82) p. 14 DD.
survey of in 1883, note on, (82-84) p. 9.
- York Tp., Gaspé, Que., petroleum springs noted, (1863) p. 789.
- York Tp., Ont., calcareous tufa on branch of Don River, (1863) p. 455.
clays and sand deposits of, (1863) p. 904.
- Young Brook, St. Andrew Channel, N.S., rocks of coast at, fossils found, (75-76) p. 389.
Lower Silurian rocks of, (75-76) p. 390.
- Young Cove, Grand Lake, N.B., cliffs of fossiliferous sandstone at, (72-73) p. 212.
- Young Point, St. Andrew Channel, N.S., rocks at, and along coast, (75-76) p. 390.
- Young's springs, Hamilton, Ont., analysis of mineral-water from, (1863) p. 538.
- Zainesville Iron Company's mine, Bedford Tp., Ont., description of, quality of ore, (82-84) pp. 10-11 L.
- Zaphrentis*, sp., notes on specimens from Fossil Point, Peace River, Atha., (75-76) p. 98.
- Zaphrentis prolifica*, Billings, wood-cut of, (1863) p. 365.
- Zaphrentis Stokesi*, Edwards and Haime, wood-cut of, (1863) p. 308.
- Zealand Sta., York Co., N.B., rocks of, (82-84) p. 21 G.
width of terrace at, (82-84) pp. 37-38 GG.
- Zeolites, recorded with amethysts, from trap rocks of Dalhousie, N.B., (79-80) p. 39 D.
occurrence of in amygdaloid of Bay of Fundy, notes on, (82-84) pp. 24-28 L.
occurrence of in southern New Brunswick, (70-71) p. 239.
varieties of, localities for, composition of, (1863) pp. 481-482.
- Zinc, determined in specimen of sphalerite from White Sand River, Lake Superior, (80-82) p. 15 H.
* ores of in Ontario and Quebec, note on, with localities, (1863) p. 514.
- Zinc-blende, note on occurrence in apatite-bearing rocks, (77-78) p. 36 G.
small quantities on Campo Bello Island, N.B., (70-71) p. 228.
in strata at Hawkesbury, N.S., (79-80) p. 85 F.
note on occurrence of near Little Whale River, Hudson Bay, (77-78) p. 21 C.
in rocks of Middle River, N.S., (82-84) p. 30 H.
- Zincite, mode of occurrence in New Jersey, (63-66) p. 216.
- Zircon of apatite-bearing rocks, Ottawa Co., forms of crystals, size, (77-78) pp. 28-29 G.
crystals of found in North Elmsley, Ont., (63-66) p. 228.
crystals, occurrence of noted at Smart's mine, Sebastopol Tp., Ont., (82-84) p. 7 L.
large crystals of found in Brudenelle Tp., Ont., (82-84) p. 15 L.
mode of occurrence, (63-66) p. 212.
occurrence of in Canada, analysis of, (1863) p. 499.
- Zoisite in fibrous mass, Sheldon Point, St. John Co., N.B., (70-71) p. 240.
- Zoophyta, of the Birdseye and Black River limestone, wood-cuts of, (1863) pp. 139-140. C.
of the Chazy Formation, wood-cuts of *Columnaria*, *Stenopora* and *Bolboporites*, (1863) p. 124.
of Corniferous Formation, wood-cuts of, (1863) pp. 362-366.
of Hamilton Formation, wood-cuts of, (1863) p. 383.
of the Hudson River Formation, wood-cuts of, (1863) pp. 206-208.
of Potsdam Group from Strait of Belle Isle, *Archeocyathus*, (1863) p. 283.
of the Trenton Formation, wood-cuts of, (1863) pp. 156-157.
- Zymoetz River, branch of Skeena River, B.C., description of part of, (79-80) p. 12 B.
porphyrites and limestones of, (79-80) p. 102 B.



TO 

230 McCone Hall

642-2997

LOAN PERIOD 1

2

3

1 MONTH

4

5

6

ALL BOOKS MAY BE RECALLED AFTER 7 DAYS

Books needed for class reserve are subject to immediate recall

DUE AS STAMPED BELOW

[illegible]

FORM NO. DD8

UNIVERSITY OF CALIFORNIA, BERKELEY
BERKELEY, CA 94720

760

NON-CIRCULATING BOOK

U.C. BERKELEY LIBRARIES



C034604093

Storage

